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UNITED STATES DEPARTMENT OF AGRICULTURE  
Rural Electrification Administration  
Technical Standards Committees  
(Electric)

Supplement No. 3, April 1978, to  
REA Bulletin 43-5

LIST OF MATERIALS ACCEPTABLE FOR USE ON  
SYSTEMS OF REA ELECTRIFICATION BORROWERS

The attached pages for the "List of Materials Acceptable for Use on Systems of REA Electrification Borrower" are those which have been revised by action of the Technical Standards Committees during the months of January through March 1978. The following changes should be made in order to keep it up to date. Pages with a colon between are on the same sheet, both being changed.

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g-1	g-1	ei	ei
g-2	g-2	fc(2):fc(3)	fc(2):fc(3)
k-1	k-1	fd	fd
k(2)	k(1):k(2)	fm	fm
l-3	l-3	gb-2	gb-2
l(1)	l(1)	sb-1	sb-1
p-2	p-2	sc-1:sc-2	sc-1:sc-2
p-10	p-10	sc(Cond.):sd	sc(Cond.):sd
p(1)	p(1)	se	se
u-3	u-3	sr(Cond.)	sr(Cond.)
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y-3:y-4	-	zz-2	zz-2
ae-1	ae-1	U an-1.1	U an-1.1
af-1	af-1	U an-2:U an(1)	U an-2:U an(1)
af-3	af-3	U gc	U gc
ah(Cond.)	ah(Cond.)	U gn(1)	U gn(1)
aj	aj	U gn(3)	U gn(3)
al	al	U gu	U gu
an-3.1	an-3.1	U hb(2)	U hb(2)
an-3.2	an-3.2	U hb(3)	U hb(3)
an(3.2)	an(3.2)	U he(1)	U he(1)
an(3.4)	an(3.4)	U he(2)	U he(2)
av-1	av-1	U hp(4)	U hp(4)
av-4:av-5	av-4:av-5	U hq(1)	U hq(1)
ax-1	ax-1	U hv-1:U hv-2	U hv-1:U hv-2
be-2	be-2	U hv-3:U hv-4	U hv-3:U hv-4
bi	bi	U hv(1)	U hv(1)
bu	bu	U hy(1)	U hy(1)
bx	bx	U hy(1.1)	-
by	by	U hy(3)	U hy(3)
cg-1	cg-1	U sc	U sc
cg(2)	cg(2)		

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PROCUREMENT SECTION  
CURRENT SIGNAL RECORDS



f - Pin, crossarm  
(With square washer, nut and locknut)

	<u>TRANSMISSION</u>	
Thread (inches diam.)	1-3/8	1-3/8
Length above base (in.)	10	10
Length below base (in.)	7	1-3/4
Shank (inches diam.)	3/4	3/4
	<u>Long Shank</u>	<u>Short Shank</u>
Chance	4332	-
Hubbard	5332	5331
Joslyn	J610*	J633*
Kortick	K7643	K7635
McGraw-Edison	DP7T9*	DP5T24*
Oliver	3420	3470
Utilities Service	3140	3145

\* "Static proof" designs available.

g - Crossarms

Applicable Specification: REA Specification DT-5B:PE-16 for  
Wood Crossarms (Solid and Laminated), Transmission Timbers and  
Pole Keys

Crossarm Manufacturing and Treating

Firms listed below have acceptable facilities for manufacture  
and treatment of crossarms or may have their crossarms treated  
at any one of the plants listed in sections g or zz.

<u>Company</u>	<u>Plant Location</u>
Alabama Wood Treating Corp.	Mobile, Alabama
American Creosote Works	Jackson, Tennessee
American Crossarm Company	Whitehouse, Florida
American Crossarm & Conduit Co.	Chehalis, Washington (1)
Anthony Forest Products	El Dorado, Arkansas (2) (3)
Brooks Lumber Company	Bellingham, Washington (1)
Conroe Creosoting Co.	Conroe, Texas
Dis-Tran, Inc.	Alexandria, Louisiana
Cascadian Co., Inc.	Eugene, Oregon (3)
Crown Zellerbach	Gulfport, Mississippi
Fordyce Wood Preservers, Inc.	Fordyce, Arkansas
R. G. Haley International Corp.	Bellingham, Washington
Hatheway-Patterson Corp.	Houston, Texas
Hughes Brothers	Seward, Nebraska (1)
International Paper Co.	De Ridder, Louisiana
Joslyn Mfg. & Supply Co.	Portland, Oregon
Koppers Company	Gainesville, Florida
	Montgomery, Alabama
	Morrisville, N. C. (2) (3)
Langdale Company	Valdosta, Georgia
Lockhart Lumber Co.	Lockhart, Alabama
Wm C. Meredith Co.	Atlanta, Georgia
Moss-American, Inc.	Meridian, Mississippi
Neidermeyer-Martin Company	Ridgefield, Washington
(Pacific Wood Treating Corp.)	
Pennington West Coast Sales Co.	Beardstown, Illinois (3)
	Eugene, Oregon (3)
Plantation Wood Products, Inc.	Albany, Georgia
Southern Wood Piedmont Co.	East Point, Georgia
	Spartanburg, South Carolina
Structural Wood Systems	Greenville, Alabama (2) (3)
John C. Taylor Lumber Sales, Inc.	Sheridan, Oregon
Texas Tie & Timber Company	Denison, Texas
(W. J. Smith Wood Preserving Co.)	
Utility Structures Engineering, Inc.	Fresno, California (2) (3)
Weekly Lumber Company	Rockledge, Florida
	Tampa, Florida
	Seattle, Washington
Wyckoff Company	

- (1) Laminated & Solid Sawn
- (2) Laminated Only
- (3) Crossarm Manufacturing Only
- No Number Indicates Solid Sawn Only



g - Crossarms

Crossarm Treating Only

Firms listed below have acceptable crossarm treating facilities, but do not manufacture crossarms or treat poles.

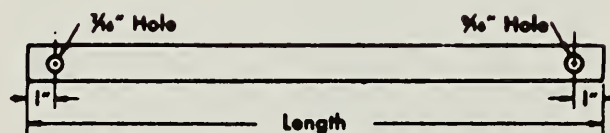
<u>Company</u>	<u>Plant Location</u>
Casswood Treated Products Co.	Beardstown, Illinois
Coleman Evans Wood Preserving Co.	Whitehouse, Florida

h  
July 1977

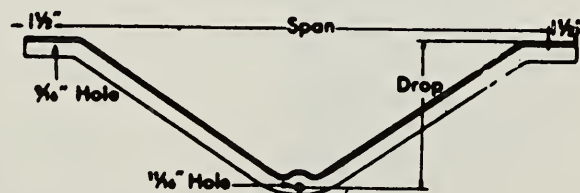
h - Brace, crossarm, steel

Size (inches)	$1\frac{1}{4}$ x $\frac{1}{4}$	$1\frac{1}{2}$ angle x $\frac{3}{16}$
Style	Flat	Bow
Centers (inches)	26	60
Length (inches)	28	-
Drop (inches)	-	18

<u>Chance</u>	7128	6942
<u>Dixie</u>	D7128	D6942
<u>Hubbard</u>	8128	7942
<u>Hughes Brothers</u>	2809.5	---
<u>Joslyn</u>	J7128	J1508
<u>Kortick</u>	K1428	K1815
<u>McGraw-Edison</u>	DB2F5	DB1L5
<u>Oliver</u>	5228	5244
<u>Util. Service</u>	5243	5217



Flat Brace



Bow Brace

NOTE: The braces listed on this page may, at the borrower's option, substituted for wood braces, item cu, specified on 7.2/12.5 kV drawings. They may not be used for 14.4/24.9 kV construction.



k - Insulators, suspension

ANSI Class Type	52-9 Clevis	52-1 Clevis	52-4 Clevis	52-3 Ball & Socket
Disc Diameter	4 $\frac{1}{4}$ "	6"	9" or 9 $\frac{1}{2}$ "	9" or 9 $\frac{1}{2}$ "
M & E Rating, lbs.	10,000	10,000	15,000	15,000
Leakage, inches	6-3/4	7	11 $\frac{1}{2}$	11 $\frac{1}{2}$
Flashover; kV: Dry-Wet	60 - 30	60 - 30	80 - 50	80 - 50
NOTES	(3)(4)(6)	(3)(4)	(5)	(2)

Manufacturer

Catalog Number

Chance	C907-0209	C907-0001 (6)	-	-
I-T-E (Victor)	877	804 (6)	-	-
Joslyn (Pinco)	L1814	L1510	L-970	L-960
Lapp	6815-G70	6605	9100	9000
Locke	16044	16583	158410	158409
Ohio Brass	42399	32433	48019	48008
Porcelain Prod. (Knox)	20034	86012	-	-
Sediver	CT-4R2	-	-	-

Notes:

- (2) To be used only on transmission lines.
- (3) To be used only on distribution lines.
- (4) Use two insulators for 7.2/12.5 kV deadends and three insulators for 14.4/24.9 kV deadends.
- (5) Use two insulators for 14.4/24.9 kV deadends.
- (6) Either malleable iron, steel or aluminum hardware is acceptable.

k-2  
July 1977

k - Insulators, suspension

ANSI Class Type	52-3 Ball & Socket	52-4 Clevis	52-5 Ball & Socket	52-6 Clevis
Disc Diameter	10"	10"	10"	10"
M & E Rating, lbs.	15,000	15,000	25,000	25,000
Leakage, inches	11 $\frac{1}{2}$	11 $\frac{1}{2}$	11	11
Flashover; kV: Dry-Wet	80 - 50	80 - 50	80 - 50	80 - 50
NOTES	(2)	(1)	(2)	

Manufacturer

Catalog Number

I-T-E (Victor)	900	800	924	815
Joslyn (Pinco)	L1060	L1070	L1500	L1570
Lapp	8200	8100	5960G	2300
Locke	20S840	20S580	30S255	30S257
Ohio Brass	32440	32439	47410	47415
Porcelain Prod. (Knox)	81022	81012	-	-

Notes: (1) Use two for 14.4/24.9 kV deadends.  
(2) To be used only on transmission lines.





Conditional List  
k(2)  
January 1978

k - Insulator, suspension

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Sediver</u>		
10" suspension insulator	997(7/27/72)	To obtain experience.
CT-6R2 (clevis, 15,000 lbs.)	1068(6/26/75)	
N-6R2 (ball & socket, 15,000 lbs.)		
CT-12R (clevis, 25,000 lbs.)	997	
N-12R (ball & socket, 25,000 lbs.)	7/27/72	

1 - Deadend for steel strand (overhead ground wire)

TRANSMISSION

For high strength steel strand and aluminum clad steel strand.

<u>Manufacturer</u>	<u>Clamp Type</u>		
	<u>High strength steel</u>	<u>Aluminum clad steel</u>	
	<u>3/8" and 7/16"</u>	<u>7 No. 9 AWG</u>	<u>7 No. 8 AWG 7 No. 7 AWG</u>

Ohio Brass

80437

1-3  
April 1978

1 - Deadend for steel strand (overhead ground wire)

TRANSMISSION

For high strength steel strand and aluminum clad steel strand.

<u>Manufacturer</u>	<u>Compression Type</u>				
	<u>High strength steel</u>		<u>Aluminum clad steel</u>		
	<u>3/8"</u>	<u>7/16"</u>	<u>7 No. 9 AWG</u>	<u>7 No. 8 AWG</u>	<u>7 No. 7 AWG</u>
Alcan Cable	82S712	82S714	82A79	82A78	82A77
ALCOA	4620.12	4627.14			
Burndy	YTW375E	YTW438E	YTW7M9T	YTW7M8T	YTW7M7T
Somerset	Order by wire size and type.				

Formed Type

Chance	16M AWSBG	20M AWSBG
Helical Line Prod.	HG523-12.5M HG525-16M	HG528-20M
Preformed Line Products	AWDE-4119 AWDE-4122	AWDE-4125

Automatic Type

Reliable	5202	5202	5203
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1 - Clamp, deadend

DISTRIBUTION

2-Bolt Straight Line, Aluminum Alloy

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>*Barron Bethea</u> Aluminum alloy deadend Catalog No. SDF-10A (4 through 4/0 ACSR)	871 7/6/67	(a) To obtain experience. (b) Applications limited to replacements under hot line conditions.
<u>*Fargo</u> Aluminum alloy deadend Catalog No. GD-971A (No. 4 and No. 2 ACSR) Catalog No. GD-972A (2/0, 3/0 4/0 ACSR)	791 4/30/64	Same as above.
<u>*C &amp; R Products</u> Aluminum alloy deadend Catalog No. CR-15-180 (No. 2 and No. 4 ACSR)	918 5/15/69	Same as above.
<u>*Bethea/National</u> Aluminum alloy deadend Catalog No. (1/0, 2/0, 3/0 ACSR)	961 2/18/71	Same as above.
<u>*Anderson/Square D</u> Aluminum alloy deadend Catalog No. ADS-48-C (2/0 ACSR)	1130 1/5/78	Same as above.

\*Straight line deadend clamps are applicable for urban construction where tensions are moderate and on lines often worked hot.

m-1  
July 1977

m - Clamp, suspension

2 BOLT - DISTRIBUTION

	<u>Copper &amp; CWC</u>	<u>ACSR with 4</u>	<u>Straight or 2</u>	<u>Preformed 1/0 &amp; 2/0</u>	<u>Armor Rods* 3/0 &amp; 4/0</u>
Anderson	MS-46-N	MS-60-N	MS-70-N	HAS-85-N	HAS-104-N
Bethea/National	FS-46-N	GW-1-N	LS-0-N	LS-1-N	LS-2-N
Joslyn (Brewer-Titchener)	6240	6241	6242	6243	6244
C & R Products	-	-	-	CRSC-1	CRSC-2
Knox	6240A-U	6241A-U	6242A-U	6243A-U	6244A-U
Lapp	9300	9301	9302	9303	9304
Locke	46240A-U	46241A-U	46242A-U	46243A-U	46244A-U
Ohio Brass	83044	83064	83074	83084	83104
Preformed	-	-	-	-	AGS*
I-T-E (Victor)	6240	6241	6242	6243	6244
Barron Bethea	FGW-1	FGW-2	FGW-3	FGW-4	-

\*Accepted for larger sizes.

p - Connectors  
ACSR to ACSR  
To same size or smaller

	<u>Over Armor Rods</u>				
	<u>3/0</u>	<u>2/0</u>	<u>1/0</u>	<u>2</u>	<u>4</u>
ALCOA	200	R196	R196	R196	198
Anderson Elec.	LC-85	LC-83	LC-82	LC-81A	LC-81
Blackburn	-	-	PAA10	PAA10	PAA10
Burndy	-	-	UC32R	UC32R	UC32R
Fargo	GA-9843	GA-9842	GA-616	GA-616	GA-616
Joslyn	-	-	744AL	600AL	600AL
Penn-Union	-	-	ARC-12	ARC-11	ARC-14
Reliable	-	-	744AL	600AL	600AL
Sherman	-	-	R102	R102	R102
Weaver	-	-	NICR60	NICR60	NICR60

	<u>2/0</u>	<u>ACSR to Guy Strand</u> <u>1/0</u>	<u>2 &amp; 4</u>
ALCOA	396.6	396.6	490.0
Anderson Elec.	LC-52A-GP	LC-51C-GP	LC-51A-GP
Bethea/National	APG-3	APG-2	APG-2
Blackburn	PAA10	PAA6	PAA5
Burndy	UC28R	UCG25R	UCG25R
Dossert	AC103-LW	AC101-LW	AC100-LW
Fargo	GA-616	GA-620	GA-620
Joslyn	744AL	555AL	438AL
Penn-Union	ALC-15	ALC-10	PCA-010
Reliable	744AL	555AL	438AL
Weaver	NICR60	NICA60	NICA60

p - Connectors

ACSR to Copper or Copperweld-Copper

	ACSR Size (Bare Conductor)				
	3/0	2/0	1/0	2	4
ALCOA	197	R193	R193	195	195
Anderson Elec.	LC-822	LC-811A	LC-522A	LC-512	LC-511A
Blackburn	PAC7	PAC7	PAC4	2CA	4CA
Fargo	GA-616C	GA-616C	GA-620C	GA-620C	GA-620C
Joslyn	600ALC	555ALC	438ALC	438ALC	438ALC
Reliable	600ALC	555ALC	438ALC	438ALC	438ALC
Sherman	R-101	R-101	-	-	-
Weaver	-	-	-	2WCA	2WCA

p - Connectors, Compression

DISTRIBUTION

	<u>Aluminum to aluminum</u>	<u>Aluminum to copper</u>	<u>Copper to copper</u>	<u>Tap connections (Al to Al, Al to Cu)</u>
Alcoa	"Snap-Tap" 210 Series	-	-	-
Anderson	AC Series	AC Series	VCUC	VCP
Blackburn, ITT	Type WR	Type WR	Type CF	Type WR
Burndy	"Hycrimp"	"Hycrimp"	"Crimpit" (Type YC-C)	"Cabelok Crimpit" (Type YP-U)
Electrical Specialty	"Squeeze Conn" (Type S)	"Squeeze Conn" (Type S)	-	-
Kearney	"Squeezon" (Aluminum)	"Squeezon" (Aluminum)	"Squeezon" (Copper)	"Squeezon" (Aluminum)
Penn-Union	"Press-On" (Aluminum)	"Press-On" (Aluminum)	"Press-On" (Copper)	"Penn-L-Tap"
Somerset/ Homac	H Tap-OB&DB	H Tap-OB&DB	-	H Tap-OB&DB

p - Connectors, Compression

	<u>SERVICE</u>	
	<u>Aluminum-to-Aluminum</u> <u>Aluminum-to-Copper</u>	<u>Copper-to-Copper</u>
<u>Alcoa</u>	"SECS"	--
<u>Anderson</u>	Versa-Crimp (VCSE)	VCCS
<u>Blackburn, ITT</u>	CS, KL	--
<u>Burndy</u>	"Linkits"	YDS-C, YDS-W
<u>Electrical Specialty</u>	VSE	--
<u>Kearney</u>	"Serv-ens"	--
<u>National Tel. Sup.</u>	"Nicopress"	--
<u>Penn-Union</u>	"Penn Sleeves"	--
Somerset/Homac	"Shure Splicers"	--

These connectors are furnished in a variety of sizes to fit all combinations of aluminum and copper service wire.



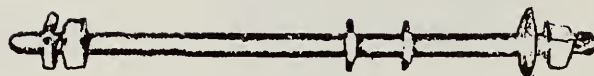
April 1978

p - Connectors

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Anderson</u>		
Compression, al to al, al to cu "Versa-Crimp" L tap.	748 11/1/62	To obtain experience.
Parallel groove, aluminum		
LC-52C (1/0 - 6/1 ACSR over armor rods)	738 6/21/62	" " "
LC-51C (1/0 - 6/1 ACSR)		" " "
<u>Burndy</u>		
Compression, insulated "Insulink"	672 8/6/59	" " "
<u>ITT Blackburn</u>		
Compression, insulated service entrance con- nectors, Types ICS-1 and IKL	1027 10/11/73 1133 2/16/78	" " "
<u>Penn-Union</u>		
Compression, insulated Type PIK	886 2/8/68	" " "
<u>Utilco</u>		
Two bolt style, al to al Type PM	1053 11/14/74	" " "
<u>Somerset/Homac</u>		
Compression, insulated "Shure Splicers" Types Q1N and U1N	1074 9/25/75	" " "

q  
July 1977

q - Bolt, double upset



Applicable Specification: "REA Specifications for Single and Double Upset Spool Bolts," D-5

Diameter, inches	<u>5/8</u>	<u>5/8</u>	<u>5/8</u>	<u>5/8</u>
Length, inches	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>
Chance	-	7826	7828	7830
Dixie	D7824	D7826	D7828	D7830
Hubbard	8824	8826	8828	8830
Joslyn	-	J2394	J2395	J2396
Kortick	K4760	K4761	K4762	K4763
McGraw-Edison*	-	DC3E11	DC3E12	DC3E13
Oliver	7523	7524	7525	7526
Utilities Service	31065	31067	31069	31071

\*"Static proof" designs available.

u - Deadend for guy strand

Strand Size:                      1/4"                      3/8"                      7/16"

Automatic

Reliable

Bail for thimble eye	5100	5102	5103
Bail for guy insulator	5150	5152	5153



Formed Type

Chance

For standard guy	1/4 GSBG	3/8 GSBG	7/16 GSBG
For wrapped guy	1/4 GSC	3/8 GSC	7/16 GSC

Helical Line Products

For standard guy	HG-207-1/4"	HG-210-3/8"	HG-211-7/16"
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Preformed Line Products

For standard guy	GDE-1104	GDE-1107	GDE-1108
For wrapped guy	WGL-2100	WGL-2103	WGL-2104



Offset Guy Clamp

	<u>Light</u> <u>(1/2" bolts)</u>	<u>Heavy</u> <u>(5/8" bolts)</u>
Chance	6409	6410
Joslyn	J926	J927
McGraw-Edison	DG5C1	DG5C2
Oliver	9056	9057

u-3  
April 1978

u - Deadend for guy strand

Strand Size	7#12(6M)	7#11(8M)	7#10(10M)	7#9(12.5M)
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Formed Type  
Alumoweld Guy Strand

Chance

For standard guy	6M-AWSBG	10M-AWSBG	12.5M-AWSBG
For wrapped guy	6M-ASWC	10M-AWSC	12.5M-AWSC

Helical Line Prod.

For standard guy	HG517-6M	HG519-8M	HG521-10M	HG523-12.5M
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Preformed Line Prod.

For standard guy	AWDE-4110	AWDE-4116	AWDE-4119
For wrapped guy	WGL-4110	WGL-4116	WGL-4120

Automatic  
Alumoweld Guy Strand

<u>Reliable</u>	5200	5201	5202
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y - Galvanized Steel Strand

Applicable Specification: ASTM A475 (Class A, B or C Coating)

DISTRIBUTION GUY STRAND

Grade Size	Siemens Martin		High Strength (HS)			Extra High Strength (EHS)		
	1/4"	3/8"	7/16"	1/4"	9/32"	5/16"	3/8"	7/16"
<u>Manufacturer</u>								
Alcan Cable	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>		X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>
Armco Steel Corp.	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>
Bethlehem Steel	X	X	X	X	X	X	X	X
CF&I	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>		X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>
Cal-Wire	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>		X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>
Florida Wire and Cable	X	X	X	X		X	X	X
Indiana Steel and Wire	X	X	X	X	X	X	X	X
Paulsen-Webber	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>		X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>
Seal Wire Co.	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>		X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>
Southwire	X	X	X	X		X	X	X
U. S. Steel	X	X	X	X		X	X	X

1 - Class A coating only

y-1  
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y - Galvanized Steel Strand

Applicable Specification: ASTM A175 (Class A, B or C Coating)

TRANSMISSION GUY STRAND

Grade Size	High Strength (HS)					Extra High Strength (EHS)				
	1/4"	9/32"	5/16"	3/8"	7/16"	1/4"	9/32"	5/16"	3/8"	7/16"
<u>Manufacturer</u>										
Alcan Cable	X <sup>1</sup>			X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>			X <sup>1</sup>	X <sup>1</sup>
Armco Steel Corp.	X <sup>1</sup>		X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>		X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>
Bethlehem Steel	X			X	X	X		X	X	X
CF&I	X <sup>1</sup>			X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>			X <sup>1</sup>	X <sup>1</sup>
Cal-Wire	X <sup>1</sup>			X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>			X <sup>1</sup>	X <sup>1</sup>
Florida Wire and Cable	X			X	X	X			X	X
Indiana Steel and Wire	X	X	X	X	X	X	X	X	X	X
Paulsen-Webber	X <sup>1</sup>			X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>			X <sup>1</sup>	X <sup>1</sup>
Seal Wire Co.	X <sup>1</sup>			X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>			X <sup>1</sup>	X <sup>1</sup>
Southwire	X			X	X	X			X	X
U. S. Steel	X			X	X	X			X	X

1 - Class A coating only



y - Galvanized Steel Strand

Applicable Specification: ASTM A63 (Class A, B or C Coating)

OVERHEAD STRUCTURAL WIRE

Grade Size	High Strength (HS) 3/8"	High Strength (HS) 7/16"	Extra High Strength (EHS) 5/16"	Extra High Strength (EHS) 3/8"	Extra High Strength (EHS) 7/16"
<u>Manufacturer</u>					
Alcan Cable	X <sup>1</sup>	X <sup>1</sup>		X <sup>1</sup>	X <sup>1</sup>
Armco Steel Corp.	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>
Bethlehem Steel	X	X	X	X	X
CF&I	X <sup>1</sup>	X <sup>1</sup>		X <sup>1</sup>	X <sup>1</sup>
Cal-Wire	X <sup>1</sup>	X <sup>1</sup>		X <sup>1</sup>	X <sup>1</sup>
Florida Wire and Cable	X	X		X	X
Indiana Steel and Wire	X	X	X	X	X
Paulsen-Webber	X <sup>1</sup>	X <sup>1</sup>		X <sup>1</sup>	X <sup>1</sup>
Seal Wire Co.	X <sup>1</sup>	X <sup>1</sup>		X <sup>1</sup>	X <sup>1</sup>
Southwire	X	X		X	X
U. S. Steel	X	X		X	X

1 - Class A coating only

y-4  
April 1978

y - Steel Strand

Aluminum Clad

Aluminum-clad steel strand for overhead  
ground wire (Alumoweld)

Applicable Specifications: ASTM B 416  
Applicable Sizes : 7 x .106", 7 No. 9 AWG,  
7 No. 8 AWG, 7 No. 7 AWG

Copperweld Steel Company

For guy strand (Alumoweld)

Applicable Sizes : 6M(7 No. 12), 8M(7 No. 11), 10M(7 No. 10),  
12.5M(7 No. 9)

Copperweld Steel Company

ae - Surge Arresters, Distribution  
(Lightning arresters)

<u>Manufacturer</u>	<u>Arrester Type</u>	<u>Mount- ing #</u>	Catalog No. of Arrester and Bracket		
			<u>7.2/12.5</u>	<u>7.62/13.2</u>	<u>14.4/24.9</u>
General Electric	Valve	T	9L24BAC	9L24BAD	9L24BAG
		C	9L24BAC	9L24BAD	9L24BAG
Joslyn	Valve	C	J9231-Q	J9231-Q	J9261-QT
		T	J9231-QT	J9231-QT	J9261-QT
Kearney	Valve	C	294012	294013	294016
		T	294042-7	294043-7	294046-7
		RS	294042-7	294043-7	294046-7
McGraw-Edison	Valve	T	AV500M010	AV500M010	AV500M018
		C	AV800M010	AV800M010	AV800M018
Ohio Brass	Valve	C	212203-7622	212203-7622	212206-7722
		R	212203-8006	212203-8006	212206-8007
		T	212203-8004	212203-8004	212206-8051
		RS	212203-8005	212203-8005	212206-8005
RTE	Expulsion	C	32-2686A03	-	32-2686A06
		T	32-2668A03	-	32-2668A06
Westinghouse	Valve	C	Type GLV 367A109A10	Type GLV 367A109A10	Type LVBB 369A104A18

#T - Transformer, C - Crossarm, R - Recloser, RS - Repair Shop

NOTE: Only arresters with top gaps and without ground lead disconnectors are acceptable.

ae-2  
July 1977

ae - Surge Arresters, Substation\*  
(Lightning arresters)

<u>Manufacturer</u>	<u>Type</u>	<u>Accepted Ratings - kV</u>	<u>Manufacturer's Classification</u>
General Electric	Alugard	3, 9, 10, 18	Distribution
	Alugard	3-312	Station
	Magne-Valve	3-121	Intermediate
Joslyn	RS	9, 10, 18	Distribution
	Q	3, 9/10, 18	Distribution
Kearney	Unigap	3, 9, 10, 18	Distribution
McGraw-Edison	E7M	3, 9, 10, 18	Distribution
	F2	9-120	Intermediate
	G	3-144	Station
Ohio Brass	GP	3-72	Intermediate
	MPA	3-15	Station
	MP	3-48	Station
	MPR	60-312	Station
	DA	3, 9, 10, 18	Distribution
Westinghouse	LV	3-20	Distribution
	IVL	3-120	Intermediate
	CPL	3-312	Station

\* For instructions concerning application at substations refer to REA Bulletin 65-1, "Guide for the Design of Substations for Electric Borrowers." In the purchase of arresters, care should be taken to select the type and voltage rating in accordance with the line voltage and the type of construction (grounded or ungrounded).

af - Outouts, distribution, open

<u>Manufacturer</u>	<u>Type</u>	<u>Voltage Rating</u>
Chance	F3	15, 27 kV
General Electric	9F34A	15, 27
Joslyn	Series 2	15, 27
Kearney	HX (With or without loadbreak accessory)	15, 27
McGraw-Edison	SL	15, 27
	ELB	15, 27
S & C Electric	XS	15, 27
Southern States	Series 63	15, 27
	Series 70	15
Westinghouse	NCX	15, 27
	LBU-II	15

NOTE: The buyer should specify the load rating, voltage rating, interrupting rating and required accessories.

af-2  
January 1978

af - Cutout, open-link fuse support

<u>Manufacturer</u>	<u>Mounting</u>	<u>7.2/12.5 kV 50 amp.</u>	<u>14.4/24.9 kV 50 amp.</u>
<u>Joslyn</u>	Crossarm	J9254-6	J9264-6
<u>Kearney</u>	Crossarm	6484-55	-
	Bushing	6486-4	-
<u>McGraw-Edison</u>	Crossarm	FT1A2	FT1A4
	Bushing	FT10A3	-
<u>RTE</u>	Crossarm	41S3	41S6

Note: Items listed on this page are fuse supports only and have no inherent interrupting capacity. They should be used with fuse links capable of interrupting at least 1200 amperes and for transformer protection only.



af - Power Fuses, Substation

<u>Manufacturer</u>	<u>Type</u>	<u>Voltage Rating</u>
Kearney	HX	15
	HX	27
McGraw-Edison	LMO	15
	EMO	15
	HXO	15-46
S & C Electric	XS	15-25
	SMD (Boric acid)	15-138
Southern States	Series P	15-161
Westinghouse	RDB(Boric acid, refillable)	15-34.5
	DBS(Boric acid, non-refillable)	15-34.5
	DBA(Boric acid, refillable)	46-69

NOTE: All fuses listed on this page should be furnished with NEMA standard insulators. The buyer should specify the current rating, voltage rating, interrupting rating and required accessories.

Conditional List  
af  
July 1977

af - Cutouts, distribution, open

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Southern States</u> Crossarm mounted Series 65B, 7.2/14. 4 kV 100 ampere	994 6/29/72	To obtain experience.

April 1978

## ah - Tie, insulator, formed type

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Chance</u>		
Tygard Type AWTY-56* (Side tie for use over armor rod on spool insulator with 1-3/4" groove)	863 4/13/67	To obtain experience.
Super Top-Tie, Type STT for single or double support use, with insulators 2 $\frac{1}{4}$ " through 3 $\frac{1}{2}$ " neck diameter. (Order for specific conductor size.)	1132 2/2/78	To obtain experience.
<u>Preformed Line Products</u>		
Spool Tie for ACSR, Type SPL* (Side tie for use on spool insulator with 1-3/4" groove)	877 9/14/67	To obtain experience.
DST double support top tie (Order for specific con- ductor size and insulator)	978 10/28/71	To obtain experience.
DBST double side tie (Order for specific conductor size and insulator)	1057 1/23/75	To obtain experience.

\*Not for side mounting on pin or post insulators.

ai - Rods, ground

Applicable Sizes: The standard size is 5/8 inch  
x 8 feet and catalog numbers  
listed below are for this size.  
Larger sizes may be required  
for special conditions.

Copper-covered steel rods

Boggs	EB810
Burndy	858-RGR
Carolina Galvanizing	CR-588
Copperweld	GR588
Hubbard	9438
ITT Blackburn	6258
Joslyn	J8338
Kortick	K5428
Knight	R858
<b>Oliver</b>	<b>79438</b>
<b>Teledyne (Penn-Union)</b>	<b>GR-588</b>
UTM	858PF
Utilities Service	6617
Weaver	W588

Stainless Clad Steel

<u>Manufacturer</u>	<u>5/8"</u>	<u>3/4"</u>
Joslyn	J5374	J5377
Porcelain Products	9438	9448
Teledyne (MEFCO)	"PERMAGROUND"	"PERMAGROUND"

aj  
April 1978

aj - Clamp, ground rod

<u>Manufacturer</u>	<u>For 5/8"</u> <u>Copper-</u> <u>covered Rod</u>	<u>For 3/4" Galv.</u> <u>or Stainless</u> <u>Steel Rod</u>	<u>For 5/8" Galv.</u> <u>or Stainless</u> <u>Steel Rod</u>
Anderson	GC-5	-	-
Blackburn	G5	-	-
Boggs	G31	-	-
Burndy	GKP635	-	-
C & R Products	CRGC-58	-	-
Copperweld	ABH58	-	-
Dossert	GNL62H	-	-
*Erico (Cadweld)			
1 ground wire	GR1-161G	GR1-181G	GR1-161G
2 ground wires	GR1-161G	GR1-181G	GR1-161G
Hubbard	6530	-	-
Ilsco	GRC-58	-	-
Joslyn	J8392AB	R3459	R3459
Krueger & Hudepohl	808	-	-
Kortick	K4647	-	-
Oliver	76492	-	-
O-Z Elec. Mfg.	BG0304	-	-
Penn-Union	CEB-2	-	-
Reliable	E58	3459	3459
UTM	910-023-03	910-007-02	910-007-02
Weaver	WB5/8	-	-

\*Includes disposable molds.

Conditional List

aj

July 1977

aj - Clamp, ground rod

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Kearney</u> 18457 ("Squeezon," 5/8 inch)	467 5/6/52	To obtain experience.
<u>Power Line Hardware</u> RC-34 (for 5/8" and 3/4") galvanized or stainless steel ground rod	1114 5/12/77	To obtain experience.



al  
April 1978

al - Staples, ground wire

Length x Spread (inches)	1½ x ¼	2 x ½	1½ x 3/8	3 x 1-1/16
Diameter	9 Gauge <u>Galv. Steel</u>	8 Gauge <u>Galv. Steel</u>	8 Gauge <u>Copperweld</u>	¼ <u>Moulding</u>
Blackburn	-	-	CUS9	CUS22
Chance	7511-3/4	7512	9167	9161
Copperweld	-	-	CP52	-
Dixie	D-7514	-	-	-
Hubbard	8534	8512	7652	7522½
Joslyn	J1672G	J157	J6652	J6497
Kortick	-	-	K247	K236
Larson	-	1976-2	7652	75225
Oliver	9797	9792½	77652	77522½
Utilities Service	88	86	48	46

Barbed staples, ground wire

Length x Spread (inches)	1½ x 3/8	2 x 5/8	1½ x 3/8	3 x 1-1//6
Diameter	.131 <u>Galv. Steel</u>	.165 <u>Galv. Steel</u>	.140 <u>Copperweld</u>	7/32 <u>Galv. Steel</u>
Joslyn	J7656	J7672	J7682	J7664

Staples, alumoweld

Length x Spread (inches)	2 x ½	1½ x 3/8	3 x 1-1/16
Diameter	8 gauge <u>8 gauge</u>	8 gauge <u>8 gauge</u>	¼ <u>moulding</u>
Copperweld Steel	CPA 2046	-	-
Joslyn	-	J-6652AL	J-7493AL

Clip, ground wire

Kearney 12326

Conditional List  
al  
July 1977

al - Staples, ground wire

Clip, ground wire

Manufacturer

Meeting No.  
and Date

Conditions

Fastex (FTW)

No. 780-2

1038  
4/4/74

To obtain experience.

an - Transformers, Power  
Single-Phase, Step-Down  
for Distribution Substation Use

Primary Voltage-kV	kVA Capacity												
	167	250	333	500	833	1250	1667	2500	3333	5000	6667	8333	10,000
Kuhlman													
34.4			X	X	X	X	X	X					
43.8			X	X	X	X	X	X	X				
67.0				X	X	X	X	X	X				
115									X				
McGraw-Edison													
34.4	X	X	X	X	X	X	X						
43.8			X	X	X	X	X						
67.0			X	X	X	X	X						
Standard													
34.4			X	X	X								
43.8		X	X	X	X								
67.0		X	X	X	X								
Wagner													
34.4	X	X	X	X	X	X	X						
43.8		X	X	X	X	X	X						
67.0			X	X	X	X	X						
115											X		
138											X		
Westinghouse													
34.4													
43.8													
67.0													
115													

X X

X

an-3.1  
April 1978

an - Transformers, Power  
Three-Phase, Step-Down  
for Distribution Substation Use

Primary Voltage-kV	kVA						MVA							
	750	1000	1500	2000	2500	3750	5	7.5	10	12	15	20	25	30
Central Moloney														
34.4	X	X	X	X	X	X	X	X						
43.8	X	X	X	X	X	X	X	X	X					
67.0	X	X	X	X	X	X	X	X	X	X				

General Electric

34.4	X	X		X	X	X	X	X	X	X	X	X		
43.8	X	X		X	X	X	X	X	X	X	X	X		
67.0	X	X		X	X	X	X	X	X	X	X	X	X	
115							X	X	X	X	X	X	X	
138							X	X	X	X	X	X	X	

Transformers 5 MVA and larger also accepted as load tap changing transformers using General Electric Types LR72, LR65 and LRT-200 load tap changers.

Kuhlman

34.4		X		X	X	X	X	X	X	X	X			
43.8				X	X	X	X	X	X	X	X	X	X	
67.0				X	X	X	X	X	X	X	X	X	X	
115							X	X	X	X	X	X	X	

Transformers 5 MVA and larger also accepted as load tap changing transformers using Siemens-Allis Types TLS and TLH-21 load tap changers.

an - Transformers, Power  
Three-Phase, Step-Down  
for Distribution Substation Use

Primary Voltage-kV	kVA						MVA							
	750	1000	1500	2000	2500	3750	5	7.5	10	12	15	20	25	30
McGraw-Edison														
34.4		X		X	X	X	X	X	X	X				
43.8		X		X	X	X	X	X	X	X				
67.0		X		X	X	X	X	X	X	X				
115											X			
138											X	X		

Transformers 5 MVA and larger also accepted as load tap changing transformers using McGraw-Edison Types 550, 550B and 550C load tap changers.

Wagner														
34.4		X			X	X	X	X	X					
43.8					X	X	X	X	X					
67.0					X	X	X	X	X					
115										X	X			X
138										X	X	X		X

Westinghouse														
34.4		X		X	X	X	X		X				X	
43.8		X		X	X	X	X	X	X	X				
67.0		X		X	X	X	X	X	X	X	X		X	
115											X	X		
138											X	X	X	

Transformers 5 MVA and larger also accepted as load tap changing transformers using Westinghouse Types UTS-A, UTT-B and UVW load tap changers.

## Conditional List

an(1.1)

January 1978

## an - Transformers, Distribution, Pole Type

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>ERMCO</u> 14.4/24.9 kV and dual voltage	1095 8/11/76	To obtain experience.
Conventional, single bushing		
Conventional, two bushing		
Self-protected, single bushing		
The single bushing transformers may also be obtained with double gap and internal fuse (Type DG) or lightning arrester and external cutout (Type COLA). Dead-front for use in enclosure: Add "R" (Radial) or "LF" (Loop-feed) to designation.		
<u>Magnetic Electric</u> 7.2/12.5, 7.62/13.2 and 14.4/24.9 kV	1097 9/9/76	To obtain experience.
Conventional, single bushing	1104 (12/16/76)	
Self-protected, single bushing		
Conventional, two bushing		
<u>SESCO</u> 7.2/12.5 kV and 7.62/13.2 kV	1018 6/7/73	To obtain experience.
Conventional, single bushing		
Type RU		
Self-protected, single bushing		
Type ESP		
Conventional, two bushing		
Type CONV		
Type RU may also be purchased with internal fuse and/or lightning arrester.		
<u>Dowzer</u> 14.4/24.9 kV and Dual Voltage	824 8/19/65	To obtain experience.
Conventional, single bushing	1011	
Type CR	3/1/73	
Self-protected, single bushing		
Type CSP-R		
Conventional, two bushing		
Type CD		



an - Transformers, Power  
Three-Phase, Step-Down  
for Distribution Substation Use

Condition of Acceptance: To obtain experience.

Primary Voltage-kV	kVA					MVA								
	750	1000	1500	2000	2500	3750	5	7.5	10	12	15	20	25	30
Central Moloney														
34.4														

s

Federal Pacific

34.4														
67.0														
115														
138														

Transformers 5 MVA and larger also accepted as load tap changing transformers using Federal Pacific Type TC-546 load tap changers.

General Electric

34.4														
43.8														
67.0														
115														
138														

Transformers 5 MVA and larger also accepted as load tap changing transformers using General Electric Types LR72, LR65 and LRT-200 load tap changers.

Conditional List  
an(3.2)  
April 1978

an - Transformers, Power  
Three-Phase, Step-Down  
for Distribution Substation Use

Condition of Acceptance: To obtain experience.

Primary Voltage-kV	kVA						MVA							
	750	1000	1500	2000	2500	3750	5	7.5	10	12	15	20	25	30
Hevi-Duty														
34.4	S	S	X	S	S	X	X	X	S	S	X	S	S	S
43.8	S	S	S	S	S	X	X	X	X	X	S	S	S	S
67.0					S	X	X	X	X	X	S	X	S	S
115							X	X	X	X	S	S	S	S

Transformers 5 MVA and larger also accepted as load tap changing transformers using Westinghouse Types UTS-A and UTT-B and Siemens-Allis Type TLS load tap changers.

McGraw-Edison

34.4	S	S	S	S	S	S	S	S	S	S	S	S	S	S
43.8	S	S	S	S	S	S	S	S	S	S	S	S	S	S
67.0	S	S	S	S	S	S	S	S	S	S	S	S	S	S

Transformers 5 MVA and larger also accepted as load tap changing transformers using McGraw-Edison Types 550, 550B and 550C load tap changers.

H. K. Porter

(Delta-Star)

34.4	S	S	S	S	S	X	X	X	S					
43.8			S	S	S	X	X	X	S	X				
67.0		S	X	S	X	X	X	X	X	X	X			
115						X	X	X	S	X	X			

an - Transformers, Power  
Three-Phase, Step-Down  
for Distribution Substation Use

Condition of Acceptance: To obtain experience.

Primary Voltage-kv	kVA					MVA								
	750	1000	1500	2000	2500	3750	5	7.5	10	12	15	20	25	30
RTE														
34.4			s	s	X	X	X							
43.8			X	s	s	X	X							

RTE-ASEA							X	X	X	X	X			
34.4							X	X	X	X	X	X	X	X
67.0					X	X	X	X	X	X	X	X	s	X
115								X	X	X	X	X	s	X
138								X	X	X	s	s	X	X

Transformers 5 MVA and larger also accepted as load tap changing transformers using RTE-ASEA  
Type UZD load tap changers.

Sierra														
34.4					s	X	s	s	s					
43.8					X	X	s	s	s					
67.0					s	s	X	X	s					

Transformers 5 MVA and larger also accepted as load tap changing transformers using Westinghouse  
Types UTS-A and UTT-B load tap changers.

Conditional List  
an(3.4)  
April 1978

an - Transformers, Power  
Three-Phase, Step-Down  
for Distribution Substation Use

Condition of Acceptance: To obtain experience.

Primary Voltage-kV	kVA					MVA									
	750	1000	1500	2000	2500	3750	5	7.5	10	12	15	20	25	30	
Standard															
34.4					X	s	X	s	s						
43.8					s	X	X	s	X						
67.0			X		X	X	s	X	s	s	X	s			
115							X	X	X	X	X	X			

Transformers 5 MVA and larger also accepted as load tap changing transformers using Westinghouse  
Types UTS-A and UTT-B load tap changers.

Wagner

34.4	S			S
43.8	S	S		S
67.0	S	S		S
115				S

Westinghouse

34.4	S			S										S
43.8	S						S			S		S	S	S
67.0													S	S
115														S
138							S	S	S					S

Transformers 5 MVA and larger also accepted as load tap changing transformers using Westinghouse  
Types UTS-A, UTT-B and UVW load tap changers.

Conditional List  
at  
July 1977

at - Reflective Guy Marker (Guard)  
8-foot length  
Plastic or Fiberglass

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
* <u>Nordic</u> HG-815 yellow	1061 3/20/75	To obtain experience.

\*For use over preformed or automatic type deadends for guy strand; will not fit over bolt type guy clamps.

av-1  
April 1978

av - Conductor, ACSR

Applicable Specifications: ASTM Specification B 232-72  
(or latest revision)

Preferred Sizes:	<u>Distribution</u>	<u>Transmission</u>
	4 - 6/1	1/0 - 6/1
	4 - 7/1	2/0 - 6/1
	2 - 6/1	3/0 - 6/1
	2 - 7/1	4/0 - 6/1
	1/0 - 6/1	266.8 kcmil - 26/7
	2/0 - 6/1	336.4 kcmil - 26/7
	3/0 - 6/1	477 kcmil - 26/7
	4/0 - 6/1	556.5 kcmil - 26/7
		795 kcmil - 26/7
		954 kcmil - 54/7

The following manufacturers have shown compliance with the applicable specifications:

Alcan Cable

Aluminum Company of America

American Electrical

Anaconda

Essex (Paranite)

Kaiser

Nehring

Noranda

Phelps Dodge

Pirelli Cable

Reynolds

Southwire



av - Conductor, service  
(single conductor)

<u>Manufacturer</u>	<u>Aluminum</u>	<u>Copper</u>
Alcan Cable	x	x
ALCOA	x	
American Electrical	x	x
Anaconda	x	x
Cyprus (Rome)	x	x
Essex (Paranite)	x	x
Kaiser	x	
Phelps Dodge	x	
Pirelli Cable	x	x
Reynolds	x	
Southwire	x	x

Applicable specification:  
IPCEA-NEMA Standard S-66-524.

Insulation: Cross-linked thermosetting polyethylene or equal, meeting requirements of sections 7.3.3 and 7.3.5.

Conductor: Physically and electrically equal to MHD copper or HD (EC-HL9) aluminum, meeting requirements of section 7.3.2. (Compact or compressed stranded conductor is acceptable.)

Marking: Manufacturer's name and type of insulation shall be clearly shown in durable markings on the surface of the insulation at intervals no greater than 24 inches.

av-5  
April 1978

av - Conductor, service cable  
(Triplex and Quadruplex)

<u>Manufacturer</u>	<u>Aluminum</u>	<u>Copper</u>
Alcan Cable	x	x
Alcoa	x	
American Electrical	x	x
Anaconda	x	x
Cyprus (Rome)	x	x
Essex (Paranite)	x	x
Hendrix	x	x
Kaiser	x	
Phelps Dodge	x	
Pirelli	x	x
Reynolds	x	
Southwire	x	x

Applicable Specifications: REA Specification D-2, Specifications for  
600 Volt Neutral-Supported Secondary Service  
Drop Cables

aw  
July 1977

aw - Washer, spring  
1 1/4 x 1-3/4" x 3/2"

<u>Manufacturer</u>	<u>Bolt Size</u>		
	<u>5/8"</u>	<u>3/4"</u>	<u>7/8"</u>
Chance	3540	3541	-
Hubbard	4540	4541	4542
Joslyn	J3540	J3541	J3542
Kortick	K2909	-	-
Fastex (ITW) "Ramp Lok"	1-760-21	1-760-31	1-760-41
McGraw-Edison	DF17W3	DF17W4	DF17W5
Oliver	3038	3039	3039 1/2

ax-1  
April 1978

ax - Cutout and Arrester, Combination

Nominal System Voltage		For 7.2/12.5 kV Wye		For 7.6/13.2 kV Wye		For 14.4/24.9 kV Wye	
Cutout Max. Voltage Rating		7.8 kV		15 kV		18 kV	
Application		1Ø Trans.		3Ø Bank 3Ø Sect. 1Ø Sect.		1Ø Trans. 50*	
Cutout Current Rating		50*		100		100	
Type							
Mounting							
Manufacturer							
Catalog Numbers							
Chance	Crossarm Transformer	C70J-2B3300		C70J-2F2300		C70J-2F2300	
	Crossarm(L) Transformer	9F80A&B		9F80A&B		9F80A&B	
General Elec. Joslyn	(valve)	J9237-Q6		J9237-Q2M/R		J9237-Q6	
	(valve)	J9237-Q2M/B		J9237-Q2M/B/R		J9237-Q2M/B/R	
	(valve)	J9238-1Q		J9238-1Q		J9238-1Q	
Kearney	Crossarm Transformer	294072		123511		123512	
	Crossarm Transformer	AF1J-9		AF8C1		AF1J10	
McGraw-Edison	Crossarm Transformer	AF6J-9		AF5C1		AF6J10	
	Crossarm Transformer	32-2661A03				32-2661A06	
RTE							

\*These cutouts have open links and must not be used where fault currents are high, or for sectionalizing.

(L) indicates loadbreak type is available.

be-2  
April 1978

be - Reclosers, vacuum interrupter  
7.2/12.5 kV

McGraw-Edison

\* #Three phase - Type VSA, ratings  
100 - 560 amperes

\* Ratings greater than 100 amp. for 7.2/12.5 kV application, and greater than 200 amp. for 14.4/24.9 kV application, are acceptable only with ground trip devices.

#Not acceptable with load current, bushing CT battery chargers.

Conditional List  
be(l)  
July 1977

be - Recloser, oil circuit  
7.2/12.5 kV

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>*Multi-Amp</u>		
Three phase oil circuit recloser, 50, 100 and 280 ampere frames, Type HR-3	808 1/7/65 1087(4/1/76)	To obtain operating experience.
<u>*Westinghouse</u>		
Three phase oil circuit recloser (Shunt trip with static or relay type controls)		To obtain operating experience.
Type ES-400 (15-400 amperes)	1070	
Type ES-560 (15-560 amperes)	7/24/75	
Type ESM-560 (100-560 amperes)		
Type ES-105 (15-560 amperes)	1077(11/13/75)	

\* Ratings greater than 100 amp. for 7.2/12.5 kV application, and greater than 200 amp. for 14.4/24.9 kV application, are acceptable only with ground trip devices.



bi  
April 1978

bi - Gain, pole

For use with rectangular crossarms

<u>Chance</u>	4092
<u>Continental</u>	CAG-44-5
<u>Flagg (MIF)</u>	P450-B
<u>Joslyn</u>	J4092
<u>Oliver</u>	1802

For braceless crossarms (narrow profile construction)

<u>Continental</u>	DEA-65-10A
<u>Flagg (MIF)</u>	PX182A
<u>Lapp</u>	304065

Transmission

Grid Gains

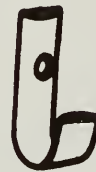
	<u>Sizes in inches</u>	
	<u>4" x 4"</u>	<u>4½" x 9"</u>
<u>Barron Bethea</u>	PG-44	PG-945
<u>Continental</u>	GGSF-4040-7	GRF-9045-7
<u>Flagg (MIF)</u>	PX122	PX260
<u>Joslyn</u>	J6064	J22533-A
<u>Lapp (Line Ware)</u>	304067	304070

bj  
July 1977

bj - Guy hook

Applicable Specification: Edison Electric Institute Specification TD-11  
1951, "Specifications for Guy Hooks and Guy  
Strain Plates"

Chance	6584
Dixie	D6584
Hubbard	7584
Joslyn	J1019
Kortick	K4031
McGraw-Edison	DG4HL
Oliver	9041
Utilities Service	5310



bu  
April 1978

bu - Connector, grounding  
for transformer or other equipment

<u>Manufacturer</u>	<u>Copper Alloy<sup>1</sup></u>	<u>Plated Copper Alloy<sup>2</sup></u>	<u>Aluminum Alloy<sup>3</sup></u>
Anderson		GTCL-23A-TP	
Blackburn, ITT		TTC2P	
Burndy		EQC632C-TN	
Dossert		TGC-8-50-SN	
Fargo	GC-207	GC-207P	GA-220
Penn-Union		GSE-C1TN	
Weaver		TGC-2P	

1 - For use with only copper type ground wire.

2 - For use with both copper and aluminum type ground wire.

3 - For use with only aluminum type ground wire.

bv  
July 1977

bv, Rods, armor

Aluminum or aluminum alloy rods for use on ACSR

ALCOA	Straight Formed Type
Blackburn	Formed Type
Chance	Formed Type
Helical Line Products	Formed Type
Preformed Line Products	Formed Type
Southwire	Straight

Copperweld rods for copper or CWC conductor

Chance	Formed Type
Helical Line Products	Formed Type
Preformed Line Products	Formed Type

Alumoweld rods for aluminum clad steel (Alumoweld)  
overhead ground wire

Chance	Formed Type
Helical Line Products	Formed Type
Preformed Line Products	Formed Type

Bronze rods (10 inch length) for jumper protection

Preformed Line Products	Formed Type
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bx  
April 1978

bx - Splice, automatic

<u>Copper</u>	<u>Fargo</u>	<u>Reliable</u>
6	GL-111	61
4	GL-112	41
2 x 3	GL-115	-
1/0 x 7	GL-117	107
2/0 x 7	GL-118	207
3/0 x 7	GL-119	307
4/0 x 7	GL-120	407

CWC

8A	GL-112	558A
6A	GL-113	556A
4A	GL-115	554A
2A	GL-117	

ACSR

GL-400 Series\*      7650 Series\*

Aluminum Alloy  
(6201 and 5005)

GL-100A Series  
GL-1000A Series

AL55 Series

\*For use on distribution only.

Conditional List  
bx  
July 1977

bx - Splice, automatic

DISTRIBUTION

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Fargo</u>		
AWAC 4-4/3	1087	To obtain experience.
GLA-105	4/1/76	
AWAC 2-4/3		
GLA-110		
AWAC 1/0 - 4/3		
GLA-115		
 <u>Reliable</u>		
AWAC 4-4/3	1026	To obtain experience.
5064	9/27/73	
AWAC 2-4/3	1035	
5066	2/21/74	
AWAC 1/0-4/3		
5070		



by  
April 1978

by - Deadend, automatic

<u>Fargo</u>	<u>Reliable</u>	Conductor Size	
		<u>Cu</u>	<u>CWC</u>
GD-515	4A SDS	-	4A
GD-513	6A SDS	-	6A
GD-512	8A SDS	-	8A
GD-515	27LD	2 x 3	-
GD-512	41LD	4	-
GD-511	61LD	6	-

ACSR

*Fargo	GD-400 Series
*Reliable	7650 Series

Aluminum Alloy  
(6201 and 5005)

Fargo	GD-A Series
Reliable	AL Series

\*For use on distribution only.

Conditional List  
by  
July 1977

by - Deadends, automatic and formed types

FORMED TYPE

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Preformed Line Products</u>		
AWAC 4 - 4/3	993	To obtain experience.
DG-4560	6/8/72	
AWAC 2 - 4/3		
DG-4562		
AWAC 1/0 - 4/3		
DG-4565		

AUTOMATIC TYPE

<u>Reliable</u>		
AWAC 4-4/3	1026	To obtain experience.
5201	9/27/73	
AWAC 2-4/3	1035	
5202	2/21/74	
AWAC 1/0-4/3		
5204		
<u>Fargo</u>		
AWAC 4-4/3	1087	To obtain experience.
GDA-235	4/1/76	
AWAC 2-4/3		
GDA-240		
AWAC 1/0-4/3		
GDA-245		

cg - Switch, air, three-pole, group-operated  
NEMA standard switches for station and line structures

<u>Manufacturer</u>	<u>Acceptable Mounting on Structure</u>	<u>Titling Ins.</u>		<u>Vertical Break</u>		<u>Side Break</u>		<u>Center Break</u>		<u>Double Break</u>	
		<u>Type</u>	<u>kV</u>	<u>Type</u>	<u>kV</u>	<u>Type</u>	<u>kV</u>	<u>Type</u>	<u>kV</u>	<u>Type</u>	<u>kV</u>
I-T-E	Horizontal	3ST	15-34.5	TTR6	15-161						
Johnson	Horizontal			VIP	15-230	LS	15-69	M	15-230		
Joslyn (Hi-Voltage)	Horizontal Horizontal			RF-2	15-230	RB-1(VL)	15-25				
						RB-1*	15-115				
Kearney	Horizontal	NE-2	15-34.5	AR 60-P	15-69						
MEMCO	Horizontal Horizontal	AgF AgC	15-69 15-69	EA	15-345						
H. K. Porter (Delta-Star)	Horizontal			MK-40	15-69	PMB-40A	15-69	LPC	69-230		
PSE, Inc. (Chance)	Horizontal Phase over phase					SMH(VL)	34.5-69				
						GOABS(VL)	15-69				
Siemens-Allis	Horizontal			TA	15-345	SSB	15-138	DSB	46-345		
								CBL	115-230		

(L) Means gas or solid material full-load interrupters are accepted and available.

(VL) Means vacuum full-load interrupters are accepted and available.

\* These switches may be purchased with reduced voltage vacuum interrupters and may be applied for loop sectionalizing duty when peak recovery voltage does not exceed 25 kV.

NOTE: Vertical phase-over-phase mounted switches are not acceptable above 25 kV class unless equipped with full-load interrupters. Switches of 15 kV and 25 kV classes with individual phases mounted on wood crossarms must be supplied with insulated interphase and control rods.

cg - Switch, air, three-pole, group-operated  
NEMA standard switches for station and line structures

Manufacturer	Acceptable Mounting on Structures	Tilting Ins.		Vertical Break		Side Break		Center Break		Double Break	
		Type	kV	Type	kV	Type	kV	Type	kV	Type	kV
Powerdyne (Kearney)	Horizontal							VL-V4	34.5-230		
Royal	Phase over Phase					RG-63	15-23				
	Horizontal	AL-2	15-46	RVL	15-161	RSL	15-161	ZAD	34.5-230		
	Horizontal	AL	15-46	RVL-61	15-230	RSL-L	15-69				
S & C	Horizontal			Alduti (L)	15-34.5	Alduti (L)	15-25			Alduti (L)	34.5-46
	Phase over phase			Alduti (L)	15-25	Alduti (L)	15-25			Alduti (L)	34.5-46
	Vertical			Alduti (L)	*15-34.5	Alduti (L)	15-25			Alduti (L)	*34.5-46
Southern States	Horizontal			WAG	15-230	57K	15-69				
	Phase over phase					(1D, 2D, 3D)	(VL) 15-161				
Turner	Horizontal					1D (VL)	15-161				
USCO	Horizontal			AGT (VL)	**15-230	GSH-4 (VL)	15-138	AGCH**	15-230		
	Horizontal							AGCH-V**	34.5-230		
	Phase over phase					GSH-4 (VL)	15-138	GCH	15-23		

(L) Means gas or solid material full-load interrupters are accepted and available.

(VL) Means vacuum full-load interrupters are accepted and available.

\* These switches, except 34.5 kV Alduti vertical break, are available and accepted in combination with the S & C Type SMD substation fuse cutouts listed on page af-3.

\*\* Also available in bronze.

NOTE: Vertical phase-over-phase mounted switches are not acceptable above 25 kV class unless equipped with full-load interrupters. Switches of 15 kV and 25 kV classes with individual phases mounted on wood crossarms must be supplied with insulated interphase and control rods.



April 1978

cg - Switch, air, three-pole, group-operated

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>H. K. Porter (cont'd.)</u>		
"Mark 40"		
115 kV thru 345 kV (horizontal upright mounting)	1005 12/7/72	To obtain experience.
Type LPV, 3-pole 72.5-272 kV, 1200 amp., 1600 amp., 2000 amp., center sidebreak for horizontal mounting	1064 5/1/75	To obtain experience.
<u>Siemens-Allis</u>		
Type AVB, 115-345 kV (horizontal upright mounting)	1027 10/11/73	To obtain experience.
Type CBL-T, 15-69 kV 600 and 1200 amp. (center break, horizontal upright mounting)	1100 10/21/76	1. To obtain experience. 2. Insulated interphase and control rods re- quired on 15 kV and 25 kV models used on wood structures.
<u>Morgan</u>		
Type VBV, horizontal upright Pole top mtg., 15-34.5 kV H-frame mtg., 46-230 kV Substation mtg., 15-230 kV	1056 1/2/75	1. To obtain experience. 2. Pole mounted switches must be supplied with insulated interphase and control rods. (Same as above.)
Type CVB, center side-break Horizontal pole top mounting, 15-34.5 kV Phase-over-phase mounting, 15-23 kV H-frame and substation mounting, 15-230 kV	1056 1/2/75	
<u>Chance</u>		
Type D2 (L)* side break, 15-34.5 kV, (horizontal and phase- over-phase mountings)	1074 9/25/75	1. To obtain experience. 2. "Duo-Gap" expulsion interrupter required with 34.5 kV switch on phase-over-phase mounting. 3. Not to be used in sub- stations.

(L) Full-load interrupter accepted and available.

\* Also available in bronze.

Conditional List  
cg(3)  
July 1977

cg - Switch, air, three-pole, group-operated

VACUUM INTERRUPTER SWITCHES

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Joslyn (Hi-Voltage)</u> Type RF-2 (VL), horizontal upright, vertical break, vacuum interrupter type air switch, 15-161 kV	867 5/25/67	To obtain experience.
<u>PSE Inc. (Chance)</u> GOABS (VL) and SMH(VL) vacuum interrupter type, for 115 through 161 kV	1050 9/19/74	To obtain experience.

(VL) Means vacuum full-load interrupters are accepted and available.



ei - Clamps, suspension with socket eye

ACSR with Straight or Formed Armor Rods

AWG		3/0	4/0	266.8	336.4	477	556.5	795	954
		kcmil							
		<u>Iron or Steel Clamps</u>							
Anderson	MS-82-S	-	MS-104-S	MS-104-S	-	-	-	-	-
Barron Bethea	FGW-4S	-	-	-	-	-	-	-	-
Bethea/National	FS-83-S	-	-	-	-	-	-	-	-
I-T-E (Victor)	6203	6204	6204	6205	6255	6257	-	-	-
Joslyn	6203	6204	6204	6205	6255	6257	-	-	-
(Brewer-Titchener)									
Knox	6203A-U	6204A-U	6204A-U	6205A-U	6255A-U	6257A-U	-	-	-
Lapp	9203	9204	9204	9205	9205A	9207A	-	-	-
Locke	46203A-U	46204A-U	46204A-U	46205A-U	46255A-U	46257A-U	-	-	-
Ohio Brass	83085	83105	83105	83115	83125	83145	-	-	-

ACSR with Straight or Formed Armor Rods

AWG		3/0 & 4/0	266.8	336.4	477	556.5	795	954
Aluminum Alloy Clamps								
Anderson	HAS-85-S	HAS-104-S	HAS-104-S	HAS-118-S	HAS-139-S	HAS-147-S	HAS-182-S	HAS-182-S
Bethea/National	LS-1-S	LS-2-S	LS-3-S	LS-4-S	LS-6-S	-	-	-
C & R	CRSC-1S	CRSC-2S	CRSC-2S	CRSC-3S	-	-	-	-
I-T-E (Victor)	9503-U	9504-U	9504-U	9505-U	9506-U	-	-	-
Joslyn	9503-S	9504-S	9504-S	9505-S	9506-S	-	-	-
(Brewer-Titchener)								
Knox	9503-U	9504-U	9504-U	9505-U	9506-U	-	-	-
Lapp	51453	51456	51456	51459	51465	-	-	-
Ohio Brass	87085	87105	87105	87115	87135	-	-	-
*Preformed	-	AGS	AGS	AGS	AGS	-	-	-

\*Clevvis type available.

ej  
January 1978

ej - Clamps, deadend with socket eye

		<u>ACSR</u>			
		<u>AWG</u>	<u>kcmil</u>		
		2/0 to 4/0	266.8	366.4	477 556.5
<u>Iron or Steel Clamps (Require armor tape or liner)</u>					
I-T-E (Victor)	5001	5002	5002	5003	
Joslyn					
(Brewer-Titchener)	5001	5002	5002	5003	
Knox	5001	5002-B	5002-B	5003	
Lapp	11501	11502	11502	11503	
Locke	45001	45002	45002	45003	
Ohio Brass	80440	80445	80445	80450	

Aluminum Alloy Clamps (Do not require armor tape or liner)

Anderson	SD-57-S	SD-70-S	SD-86-S	SD-86-S	SD-98-S
Bethea/National	ADE-21-S	ADE-22-S	ADE-23-S	ADE-24-S	
C & R	CR-10-60S	CR-20-60S	CR-20-60S	-	
I-T-E (Victor)	52001	52011	52021	52031	
Joslyn					
(Brewer-Titchener)	5200	5201	5202	5203	
Knox	5200	5201	5202	5203	
Lapp	51530	51533	51536	51536	
Ohio Brass	86536	86540	86546	86546	

NOTE: When used with clevis-type insulators for large conductors on distribution lines, order clamp with clevis eye.

## Conditional List

fc(2)

April 1978

fc - Capacitors, shunt  
12470/7200 volts

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Sangamo</u>		
Film type, 1 bushing	1135	To obtain experience.
346356 (50 kvar)	3/23/78	
346006 (100 kvar)		
346106 (150 kvar)		
346656 (200 kvar)		
Film type, 2 bushing	1135	
346306 (50 kvar)	3/23/78	
346036 (100 kvar)		
346136 (150 kvar)		
346606 (200 kvar)		
Film type, 3 bushing	1135	
347118 (300 kvar)	3/23/78	
348218 (400 kvar)		
<u>Westinghouse</u>		
Film type, 1 bushing	1116	To obtain experience.
1N02050A09 (50 kvar)	6/9/77	
1N02100A09 (100 kvar)		
1N02150A09 (150 kvar)		
1N02200A09 (200 kvar)		
Film type, 2 bushing		
1N02050A10 (50 kvar)		
1N02100A10 (100 kvar)		
1N02150A10 (150 kvar)		
1N02200A10 (200 kvar)		
Film type, 3 bushing 3Ø		
1N02150A47 (150 kvar)		
1N02303A07 (300 kvar)		
1N02403A07 (400 kvar)		

Conditional List  
fc(3)  
April 1978

fc - Capacitors, shunt  
24900/14400 volts

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>McGraw-Edison</u>		
All film type, 1 bushing	1109	To obtain experience.
CEP138B4 (100 kvar)	3/3/77	
CEP137B4 (150 kvar)		
CEP142B4 (200 kvar)		
<u>Sangamo</u>		
Film type, 1 bushing	1135	To obtain experience.
346365 (50 kvar)	3/23/78	
346016 (100 kvar)		
346115 (150 kvar)		
346676 (200 kvar)		
Film type, 2 bushing	1135	
346318 (50 kvar)	3/23/78	
346052 (100 kvar)		
346150 (150 kvar)		
346615 (200 kvar)		
<u>Westinghouse</u>		
Film type, 1 bushing	1116	To obtain experience.
1N02050A31 (50 kvar)	6/9/77	
1N02100A31 (100 kvar)		
1N02150A31 (150 kvar)		
1N02200A31 (200 kvar)		
Film type, 3 bushing 3Ø		
1N02303A29 (300 kvar)		
1N02403A29 (400 kvar)		
<u>General Electric</u>		
Film type, 1 bushing	1118	To obtain experience.
51L252KC (50 kvar)	7/14/77	
54L252KC (100 kvar)		
54L552KC (150 kvar)		
58L154KC (200 kvar)		

fd  
April 1978

fd - Hangers, capacitor

Crossarm Mounting

	<u>1 unit</u>	<u>2 units</u>	<u>3 or 4 units</u>
General Electric	39F41	39F53	39F54
McGraw-Edison	CH1A1	CH2A2	CH4A1
Sangamo	94346	94345	94347
Westinghouse	85B397G01	791C644G01	791C644G02

Pole Mounting

	<u>Single Phase</u>	<u>Three Phase</u>	
		<u>In Line</u>	<u>Cluster</u>
Aluma-Form	CR-3* thru CR-6*		3-CR-3/4*
Joslyn	J6744, J6744A		
General Electric	39F83G1	39F86G1	
Sangamo	97650		
Westinghouse	278C928G01 (3 units) 278C928G02 (6 units)	(1Ø units) 278C928G01 (3 units) 278C928G02 (6 units) 278C928G03 (9 units) (3Ø units) 279C310G03 (1 unit) 279C310G04 (2 units) 279C310G05 (3 units) 279C310G01 (4 units) 279C310G06 (5 units)	

\* Available with oil switch mounting bracket.

fg  
July 1977

fg - Crossarm Saddle

(3-3/4" x 4" with 1-1/4" x 1/4" flange)

Manufacturer

Catalog Number

Lapp

10369



fm  
April 1978

fm - Bracket, Arrester and Pothead Extension

For Distribution Arrester and Cutout - Pole Mounting

<u>Manufacturer</u>	<u>Single Phase</u>	<u>Three Phase</u>
Anderson Elec./ Square D	12.5/7.2 kV COB-E-120-TGL 24.9/14.4 kV COB-E-180-TGL	
Aluma-Form	1HCA-18 Series	R3CA-48
Chance	0653-1038	0653-1056
Continental	IACB-18-5-LGE	
Flagg (MIF)	12.5/7.2 kV PA613H 24.9/14.4 kV PA619H	
Lapp	12.5/7.2 kV 304036-G 24.9/14.4 kV 304038-G	
McGraw-Edison	DC34B3	
Shakespeare	892-18	670-40

For two distribution arresters in parallel or  
one arrester and cutout - crossarm mounted

<u>Manufacturer</u>	<u>Catalog No.</u>
McGraw-Edison	DM23B2

For Intermediate Arrester Mounting

<u>Manufacturer</u>	<u>Single Phase</u>	<u>Three Phase</u>
Aluma-Form	WBMA-1	R3CSA-48

fn  
July 1977

fn - Bracket, cutout extension

<u>Manufacturer</u>		<u>Catalog Number</u>
Anderson Elec./	12.5/7.2 kV	COB-E-120-TGL
Square D	24.9/14.4 kV	COB-E-180-TGL
Flagg (MIF)	12.5/7.2 kV	PA613H
	24.9/14.4 kV	PA619H
Lapp	12.5/7.2 kV	304036-G
	24.9/14.4 kV	304038-G
McGraw-Edison		DC34B1
Shakespeare		892-18

gb - Meter Sockets

<u>Manufacturer</u>	<u>Type or Catalog Number</u>		<u>No. Jaws</u>	<u>Rating, Amps.</u>
	<u>Ring</u>	<u>Ringless</u>		
Anchor #	1000 Class	1005 Class	4,5,6	100
	1006 "	-	4,5,6	100
	1100 "	1108 "	4,5,6	150
	1201 "	1206 "	4,5,6	200
	1202 "	1207 "	4,5,6	200
	-	1209 "	4,5,6	200
	-	1240 "	4,5,6	200
	1208 "	-	4,5,6	200
	1250 "	1255 "	4,5,7	200
	-	1300 "	4,5,7	200 HD
	1405 "	1406 "	4,5,7,8,13	20/100
	1510 "	1512 "	4,5	100 per sta.
	1520 "	1525 "	4,5	125 per sta.
	1530 "	1535 "	4,5	150 per sta.
	1540 "	1545 "	4,5	200 per sta.
	1470 "	1471 "	4,5,6,7,8,13	20/100
	1655 "	1655 "	6,8,13,&"A"	200/400
	-	1650 "	5,7	200
	(conversion)			
Arrow-Hart (Murray)	SJ Series* (Single)	RJ Series* (Single)	4, 5 & 6	100
	SD Series* (Mult.)	RD Series* (Mult.)	4, 5 & 6	125 per sta.
	SN Series* (Single)	RN Series* (Single)	4, 5 & 6	100
	SS Series* (Single)	RS Series* (Single)	4, 5 & 6	200
		RH Series* (Single)	5 & 7	200 HD

# Available with UL label.

\* UL Label.

gb - Meter Sockets

<u>Manufacturer</u>	<u>Type or Catalog Number</u>		<u>No. Jaws</u>	<u>Rating, Amps.</u>
	<u>Ring</u>	<u>Ringless</u>		
Duncan	C*		4 & 5	100
	D		4 & 5	100
	HQ-5*		4 & 5	200 HD
	HQ-7*		7	200 HD
	CQ-4*		4	200
	CQ-5*		5	200
Durham	R-7000 Series#	7000 Series#	4 or 5	100
	R-71000 Series#	71000 Series#	4 or 5	200
	R-81000 Series#	81000 Series#	4 or 5	200
Dyna-Tech		<u>Overhead</u>		
	1100-C - 1107-C	1000-C - 1007-C	4 & 5	100
	1300-C - 1307-C	1200-C - 1207-C	4 & 5	100
	2100-CH - 2107-CH	2000-CH - 2007-CH	4 & 5	200
	2300-CH - 2307-CH	2200-CH - 2207-CH	4 & 5	200
		<u>Underground</u>		
		2590-CHU - 2597-CHU	4 & 5	200
		2790-CHU - 2797-CHU	4 & 5	200
		2090-CHU - 2097-CHU	4 & 5	200
		2290-CHU - 2297-CHU	4 & 5	200
		SI-73#	4	100
		SI-73# for underground	4, 5 & 6	100
General Electric	R-2#		4, 5 & 6	200
	S-1#		4, 5 & 6	200
		SV-60#	4, 5 & 6	200
		SI-60#	7, 8 & 13	100-200, 20
General Switch			4, 5 & 6	100
		42100 Series*	4, 5 & 6	100

\* UL Label  
# Available with UL label

gz - Crossarm Assembly for Wishbone Construction, "Z" Type  
(Double Arm)

Applicable Specification: REA Specification T-5  
Applicable Drawings : REA Drawings TSZ-2 and TMZ-2

3-5/8" x 5-5/8" wood crossarm assembly complete with  
brace and attaching hardware, fittings, and bolts.

The following manufacturers have shown compliance with the applicable specifications for this assembly:

<u>Manufacturer</u>	<u>Catalog Nos. or Drawing Nos.</u>
American Crossarm & Conduit Co.	602TSZ
Brooks Lumber	6422
Hughes Brothers	C-3162-B and C-3162.10
Joslyn Mfg. and Supply Co.	JMS60-5



sb-1  
April 1978

sb - Switch, disconnect (single-pole, hook-operated station class)

NEMA standard switches for station or line  
structure use where single-pole switching is permissible

<u>Manufacturer</u>	<u>Type</u>	<u>Voltage Ratings</u>	<u>System Voltages Line-to-Line</u>
Bridges	EH	15 thru 69 kV	12.5 thru 69 kV
	EHL(L)	15 thru 69 kV	12.5 thru 69 kV
	HA	15 thru 69 kV	12.5 thru 69 kV
Hi-Voltage (Joslyn)	HU	15 thru 69 kV	12.5 thru 69 kV
	HI	15 thru 69 kV	12.5 thru 69 kV
H. K. Porter (Delta-Star)	B-2M	15 thru 69 kV	12.5 thru 69 kV
	EV(PL)	15 thru 34.5 kV	12.5 thru 34.5 kV
I-T-E	HPL	15 thru 69 kV	12.5 thru 69 kV
	DS(PL)	15 and 23 kV	12.5, 13.2, 24.9 kV
Johnson	HPT	15 thru 69 kV	12.5 thru 69 kV
Kearney	M-72(PL)	15 thru 69 kV	12.5 thru 69 kV
McGraw-Edison	D2(PL)	15 and 23 kV	12.5, 13.2, 24.9 kV
MEMCO	STV	15 thru 69 kV	12.5 thru 69 kV
	STU	15 thru 69 kV	12.5 thru 69 kV
Morgan	DHS	15 thru 69 kV	12.5 thru 69 kV
	(PL included in 15 kV)		
Royal	BT	15 thru 69 kV	12.5 thru 69 kV
S & C	LBD(PL)	15 thru 34.5 kV	12.5 thru 34.5 kV
	Alduti(L)	15 and 25 kV	12.5 thru 24.9 kV
Siemens-Allis	HA	15 thru 69 kV	12.5 thru 69 kV

(L) Means solid material load interrupters are available and accepted.

(LV) Means vacuum interrupters are available and accepted.

(PL) Means hooks for portable load interrupters are available.



sc - Regulators, voltage  
7.2/12.5 kV  
7.62/13.2 kV

Applicable Specification: REA "Specification for Substation Regulators," S-2

<u>Type</u>	<u>Size</u>	<u>Description</u>
-------------	-------------	--------------------

General Electric

ML-32	19.1 - 509 kVA	(SL) Single phase - step type
MLT	500 - 1000 kVA	(S) Three phase - step type
VML-32	500 - 833 kVA	(S) Single phase - vacuum step type
VMLT-32	1200 - 2800 kVA	(S) Three phase - vacuum step type

McGraw-Edison

RSAA	38.1 - 416.6 kVA	(SL) Single phase - step type
RAB	50 amp.	(L) Single phase - step type (Auto-Booster)

Westinghouse

ML-32	19.1 - 416.3 kVA	(SL) Single phase - step type
UTS, UTT	167 - 1000 kVA	(S) Three phase - step type

Siemens-Allis

JFR	38.1 - 416.3 kVA	(SL) Single phase - step type
LFR	50 amp.	(L) Single phase - step type

(L) Indicates line use  
(S) Indicates substation use

sc-2  
April 1978

sc - Regulators, voltage  
14.4/24.9 kV

<u>Type</u>	<u>Size</u>	<u>Description</u>
<u>General Electric</u>		
ML-32	36-576 kVA	(SL) Single phase - step type
VML-32	500-833 kVA	(S) Single phase - vacuum step type
VMLT-32	1200-4666 kVA	(S) Three phase - vacuum step type
<u>Westinghouse</u>		
ML-32	36-288 kVA	(SL) Single phase - step type
<u>McGraw-Edison</u>		
RSAA	72-576 kVA	(SL) Single phase - step type
RAB	50 amp.	(L) Single phase - step type (Auto-Booster)
<u>Siemens-Allis</u>		
JFR	72-576 kVA	(SL) Single phase - step type

(L) Indicates line use.  
(S) Indicates substation use.

sc - Regulators, voltage

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Siemens-Allis</u>		
Three-phase, step-type substation regulator Type SFR (7.62/13.2 kV)	657 11/24/58	To obtain experience.
<u>General Electric</u>		
Three-phase, step-type substation regulator Type TMLT-32 (7.62/13.2 kV)	723 9/28/61	To obtain experience.

sd  
April 1978

sd - Current Transformers  
Outdoor Types

<u>Manufacturer</u>	<u>.6kV</u>	<u>1.2kV</u>	<u>15kV</u>	<u>25kV</u>	<u>34.5kV</u>	<u>69kV</u>
Associated Engineering	JB JBX WEO		BB-15 LG-15	BB-25 LG-25	LQ-34.5	
Astra	AA TFW AB AD					
General Electric	JCR-O JCW-O JAK-O JAD-O		JKW-5	JKW-6 JKW-150 KG-150	JKW-200 KG-200	JKW-350 KG-350
Sangamo	RH-6 FH-6A KH-6 GH-6 GH-6E BH-6		SMC-150			
Westinghouse	CSB-10 CTR CLA-10		CTOM-110 CTOM-15	ACT-150 CCO-150	ACT-200	ACT-350

NOTE: The transformer types listed above are accepted in all standard ratios. Insulation class, voltages, ratios and other necessary information should be specified when ordering.

sd - Current Transformers  
Outdoor Types

<u>Manufacturer</u>	<u>Meeting No. &amp; Date</u>	<u>Conditions</u>
<u>Electromagnetic Ind.</u>		
Type IK-E, 46-69 kV	971 (7/15/71)	To obtain experience.
Type UMCT, 0.6 kV	981	
Type UCT, 0.6 kV	12/16/71	
Type CO3-110, 15 kV	1076	
Type CO3-150, 25 kV	10/30/75	
Type CO3-200, 34.5 kV		
 <u>Duncan</u>		
Type DCBW, 0.6 kV	997 7/27/72	To obtain experience.
 <u>General Electric</u>		
Type JCK-5, 15 kV	1059 2/20/75	To obtain experience.

se  
April 1978

se - Voltage transformers

Outdoor Types

<u>Manufacturer</u>	<u>.6kV</u>	<u>1.2kV</u>	<u>15kV</u>	<u>25kV</u>	<u>34.5kV</u>	<u>69kV</u>
Associated Engineering	CL TL		PTT-150	PTT-150		
General Electric	JVA-0 JVP-0		JVW-5 JVW-110	JVW-6 ET-150 JVT-150	ET-200 JVT-200	ET-350 JVT-350
Sangamo	T-6		SMP-150			
Westinghouse	EMP PXA-10	EMPL	PTOM-110M PTOM-110	PTOM-150 APT-150	APT-200	APT-350 LPT-350

NOTE: The transformer types listed above are acceptable in all standard ratios. Insulation class, voltages, ratios and other necessary information should be specified when ordering.



sl - Switch, Combination Power Fuse and Disconnect

(Used with an additional disconnect switch to by-pass  
oil circuit reclosers at substations.)

<u>Manufacturer</u>	<u>15 kV for use on 7.2/12.5 systems</u>	<u>27 kV for use on 14.4/24.9 systems</u>
Hi Voltage	RFH	
Kearney	MHX	
McGraw-Edison	FC2	
S & C Electric	SMD/LBD XS/LBD	SMD/LBD
Southern States	SF	
Royal	TUF	
USCO	F6HD-66	F6HD-66

Note: All switches and cutouts should be furnished with NEMA  
standard insulators.

sr - Steel for Substation Grounding, Copper-Clad or Galvanized

(See page av-2 for copper grounding conductor)

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Copperweld Steel</u>		
40% conductivity DSA	954	1. To obtain experience.
Copperweld Strand in sizes:	10/29/70	
1/2" (7 No. 6 AWG)		2. When used in soil with
9/16" (7 No. 5 AWG)		resistivity of 25 ohm-meters
5/8" (7 No. 4 AWG)		(2500 ohms per centimeter
13/16" (19 No. 6 AWG)		cube) or less, cathodic
7/8" (19 No. 5 AWG)		protection must be incorpor-
		ated into the grounding
		design.
<u>Indiana Steel &amp; Wire</u>		
Steel strand, BB grade,	1004	1. To obtain experience.
Class C galvanized	11/16/72	
5/8" (19 wire)	1133	2. When used in soil with
1/2" (7 wire)	2/16/78	resistivity of 25 ohm-meters
9/16" (7 wire)		(2500 ohms per centimeter
7/16" (7 wire)		cube) or less, cathodic
		protection must be incorpor-
		ated into the grounding
		design.
<u>Bethlehem Steel</u>		
7/16" and 1/2" steel	1015	1. To obtain experience.
strand, BB grade,	4/26/73	
Class C galvanized		2. When used in soil with
		resistivity of 25 ohm-meters
		(2500 ohms per centimeter
		cube) or less, cathodic
		protection must be incorpor-
		ated into the grounding
		design.

vx  
July 1977

vx - Cross brace assembly, 3-3/8" x 5-3/8"  
with hardware & fittings (Dwg. TM-110, REA Spec. T-7)

<u>Manufacturer</u>	<u>Catalog No.</u>
<u>American Crossarm &amp; Conduit</u>	
Item 1-vx	1100-1
Item 2-vx	1100-2
<u>Hughes Bros.</u>	
Item 1-vx	1042-1
Item 2-vx	1042-2
<u>Brooks Lumber</u>	
Item 1-vx	X6685-1
Item 2-vx	X6685-2
<u>Joslyn</u>	
Item 1-vx	1-J6046
Item 2-vx	2-J6046
<u>United (Ky. AEC)</u>	
Item 1-vx	SW1042-1
Item 2-vx	SW1042-2
<u>Niedermeyer-Martin</u>	
Item 1-vx	N-6714-1
Item 2-vx	N-6714-2
<u>Cascadian</u>	
Item 1-vx	CCC-67-1
Item 2-vx	CCC-67-2

Cross Brace Assembly, 3-5/8" x 7-1/2" Min.  
with hardware and fittings.

Applicable Specification: T-8  
Drawing: TM-110A

<u>Manufacturer</u>	<u>Catalog No.</u>
Brooks	X-6695
Hughes	2073
American Crossarm & Conduit	1200
Joslyn	J6048
Niedermeyer-Martin	N-6721

zz-1  
April 1978

zz - Poles

Applicable preservatives: Creosote, pentachlorophenol-petroleum and waterborne salts (ACA and CCA)

(Firms listed on pages zz-1 through zz-7 are also qualified to treat crossarms. Crossarms should be fabricated at one of the plants listed on page g-1 or g-2.)

Pressure Treatment

	<u>Insured Warranted</u>	<u>Independently Inspected</u>
Alabama Wood Treating Corp.	-	Mobile, Ala.
American Creosote Works, Inc.	-	Jackson, Tenn. Louisville, Miss. Pensacola, Florida
American Crossarm & Conduit Co.	-	Chehalis, Washington
Arkwood	-	Omaha, Arkansas
Atlantic Creosoting Co.	-	Portsmouth, Va. Savannah, Ga. Vidalia, Ga.
Baldwin Pole & Piling Co.	-	Bay Minette, Ala.
J. H. Baxter & Co.	-	Eugene, Ore. Long Beach, Calif. The Dalles, Ore. Quendall, Wash. Weed, Calif. Laramie, Wyoming
Benton Creosoting Co. (Kennedy Saw Mills)	-	Benton, La.
Broderick Wood Products Co.	-	Denver, Colo.
Brown Wood Preserving Co.	-	Brownville, Ala. Louisville, Ky.
Cascade Pole Co.	-	Tacoma, Washington Olympia, Washington

zz - Poles

Pressure Treatment

	<u>Insured Warranted</u>	<u>Independently Inspected</u>
Cowboy Timber Treating, Inc.	-	Manderson, Wyo.
Colfax Creosoting Co.	-	Pineville, La.
Conroe Creosoting Co.	-	Conroe, Texas
Crown Zellerbach Corp.	-	Gulfport, Miss. Mobile, Ala. Urania, La. Sallisaw, Okla.
Dant & Russell, Inc.	-	North Plains, Ore.
Davis Timber Company, Inc.	-	Hattiesburg, Miss.
Delta Creosoting Company	-	Gautier, Miss.
Dickson Treating Co.	-	Canton, Miss. Winnfield, La.
Dierks Div., Weyerhaeuser Co.	-	DeQueen, Ark.
El Dorado Pole & Piling Co., Inc.	-	El Dorado, Ark.
Eppinger and Russell	-	Chesapeake, Va.
Escambia Treating Co.	-	Brunswick, Ga. Pensacola, Fla. Camilla, Ga.
Fernwood Industries	-	Fernwood, Miss.
Fordyce Wood Preservers, Inc.	-	Fordyce, Ark.
Garland Creosoting Company	-	Longview, Texas
Hart Creosoting Company	-	Jasper, Texas
Edward Hines Lumber Company	-	Mena, Arkansas
Hoosier Treating Company	Gosport, Ind.	Gosport, Indiana
Huxford Pole & Timber Co., Inc.	Huxford, Ala.	Huxford, Ala.



zz-3  
January 1978

zz - Poles

Pressure Treatment

	<u>Insured Warranted</u>	<u>Independently Inspected</u>
Idaho Pole Company	Bozeman, Mont.	Bozeman, Mont.
International Paper Co. Wood Preserving Division	-	De Ridder, La. Joplin, Mo. Longview, Wash. Navasota, Texas *Wiggins, Miss.
Jasper Creosoting Co.	-	Jasper, Texas
Joslyn Mfg. & Supply Co.	-	Minneapolis, Minn. Richton, Miss.
Kerr-McGee Chemical Corp. Forest Products Div.	-	Meridian, Miss. Columbus, Miss. Texarkana, Texas
Koppers Co. Inc.	-	Carbondale, Ill.  *Denver, Colo. Florence, S. C. Gainesville, Fla. Grenada, Miss. Houston, Texas *Montgomery, Ala. N. Little Rock, Ark. *Oroville, Cal. Salisbury, Md. Richmond, Va. Galesburg, Ill. Nashua, N. H.
Lake States Wood Preserving, Inc.		Munising, Mich.

\* Cellon process also accepted.



U an - Transformers, distribution  
pad-mounted, dead-front

(For underground application)

Applicable Specifications: "REA Specifications for Pad-Mounted  
Transformers," U-5

<u>Manufacturer</u>	<u>Single phase</u>	<u>Three Phase</u>
Central Moloney (2,4)	"REA-LP" 25-167 kVA	
Chance (2)	"Turf Hugger-R" 15-167 kVA	"Turf Hugger-R" 75-500 kVA
Dowzer (3,4)	"METRI-PAD" 25-167 kVA	
ERMCO (3,4)	"Low Profile" 10-75 kVA	
General Electric (2,4)	"Mini-Pad III - REA" 10-167 kVA	"Compad II - REA" 75-2500 kVA
Howard (2,4)	"HiPad REA" 10-167 kVA	"HiPad 3 REA" 45-2500 kVA
Kuhlman (2,4)	"Lo-Pak ALR" 25-167 kVA	
McGraw-Edison (2,4)	Series 20/30 REA 25-167 kVA	"REA Pad-Mount" 75-2500 kVA
NECO (2)	HMM-R, 10-50 kVA SP-R, 75-167 kVA	TP-R, 45-1000 kVA
H. K. Porter (2,4) (Delta-Star)	"Low Profile U 5-R" 25-167 kVA	"Porter U5-R3" 225-2500 kVA
RTE (2,4)	"REA Shrubline" 15-167 kVA	"REA Terra-Tran" 45-2500 kVA
Standard (3,4,5)	-	"Mini-Pad RE010" 75-300 kVA "Stan-Pad RE010" 500-1500 kVA
United (Ky. AEC) (2,4)	"Pad-Mount" 15-75 kVA	

- (1) 7.2/12.5 and 7.6/13.2 kV
- (2) 7.2/12.5, 7.6/13.2 and 14.4/24.9 kV
- (3) 7.2/12.5 and 7.6/13.2 kV (conditional listing for 14.4/24.9 kV)
- (4) Dual voltage - same as for 14.4/24.9 kV, single phase
- (5) Three-phase listing applies to 7.2/12.5 and 7.6/13.2 kV only

U an-1.2  
October 1977

U an - Transformers, distribution,  
pad-mounted, dead-front

(For underground application)

Applicable Specifications: REA Specifications for Pad-Mounted  
Transformers - U-5

<u>Manufacturer</u>	<u>Single Phase</u>	<u>Three Phase</u>
VanTran (3,4)	"Mini Pad U5" 5-167 kVA	"VanPad III-U5" 30-2500 kVA
Wagner (2,4)	"Turflin II-R" 25-167 kVA	-
Westinghouse (2,4)	"Mini-Pak U-5" 25-167 kVA	CTP-U5, 75-500 kVA "Plazapad - U5" 750-2500 kVA

- (1) 7.2/12.5 and 7.6/13.2 kV.
- (2) 7.2/12.5, 7.6/13.2 and 14.4/24.9 kV.
- (3) 7.2/12.5 and 7.6/13.2 kV (conditional listing for 14.4/24.9 kV).
- (4) Dual voltage - same as for 14.4/24.9 kV, single phase.
- (5) Three-phase listing applies to 7.2/12.5 and 7.6/13.2 kV only.

U an-2  
April 1978

U an - Transformers, distribution  
pad-mounted, dead-front

(For unit residential underground application, 7.2/12.5  
and 7.6/13.2 kV, 5-25 kVA single phase only)

<u>Manufacturer</u>	<u>Type</u>
Central Moloney	"REA-Mini-LP" 10-25 kVA
Chance	"Turf Hugger II" 10-25 kVA
ERMCO	"REA-Micro Pad" 10-25 kVA
Kuhlman	"K-Pak AKR" 10-25 kVA
McGraw-Edison	"Series 10/15 REA" 10-25 kVA
RTE	"Ranch Runner" 10-25 kVA
VanTran	"Mite-E-Mini" 5-25 kVA
Westinghouse	"Micro-Pak U-5" 10-25 kVA

Conditional List

U an(1)

April 1978

U an - Transformers, distribution,  
pad-mounted, dead-front

(For underground application)

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Hevi-Duty</u> Three phase SBI-DF 112.5-2500 kVA 7.2/12.5 & 7.6/13.2 kV	970 7/1/71	1. To obtain experience.  2. Test reports on 112.5, 150, 225, 300, 500, 750 and 2000 kVA to be submitted as available.
<u>Westinghouse</u> "House-Pak U-5" dry type 15 and 30 kVA 7.2/12.5 & 7.6/13.2 kV	984 2/3/72	To obtain experience.

U gc  
April 1978

U gc - Shield, cable riser

<u>Manufacturer</u>	<u>Dia. (Inches)</u>	<u>Length (Feet)</u>
<u>Galvanized Steel</u>		
Chance	2 - 3 - 3½	5 - 9
*Electrical Materials	2 - 3 - 4 - 5	5
*#Fargo (Utility Products)	2¼ - 3¼ - 3-3/4	5 - 8
	5	3 - 5
*Joslyn	2 - 3 - 3½	5 - 8
*McGraw-Edison	2 - 3 - 4	3 - 5 - 10
Midland-Ross (Kindorf Snapduct)	2½ - 3½ - 5 (14 ga. galv. steel)	2½ - 5 - 10

Plastic and Fiberglass

*Carlton (plastic)	2 - 3 - 4 - 5	10
*Electrical Materials (plastic)	2 - 3 - 4 - 5	5 - 10
*Hercules (Haskon) (plastic) (Power Mold I, II, III)	2 - 3 - 4 - 5	5 - 9½ - 10
*Joslyn (plastic)	2 - 3 - 4 - 5	5 - 10
*Nordic (fiberglass)	2½ - 3½ - 5½	5 - 10

(Order by size and length)

#All sizes available with galvanized finish or painted green over galvanizing.

\*All sizes available with backing plate.

U gk  
July 1977

U gk - Terminations, Indoor

(When ordering specify conductor size, type, whether  
copper or aluminum and insulation diameter)

<u>Manufacturer</u>	<u>Voltage Class</u>	<u>Catalog No.</u>
Joslyn	15 kV	J9275



## Conditional List

U gk(2)

July 1977

## U gk - Terminations, Indoor

(When ordering specify conductor size, type, whether  
copper or aluminum and insulation diameter)

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Elastimold (ESNA)</u> Style 35-MS (15, 25 and 35 kV)	945 (6/11/70) 1116 (6/9/77)	To obtain experience.
<u>General Electric</u> Termi-Matic, Type A or G (15, 25 and 35 kV)	914 (3/20/69) 1083 (2/5/76)	To obtain experience.
<u>ITT Blackburn</u> Type SKD Stress Cone (15, 25 and 35 kV)	1043 6/13/74	To obtain experience.
<u>Joy</u> Stress Cone (15 kV)	979 11/11/71	To obtain experience.
<u>Raychem</u> Thermofit HVT (15, 25 and 35 kV)	1054 11/27/74	To obtain experience.
<u>3M</u> MT Series (15, 25 and 35 kV)	1054 (11/27/74) 1083 (2/5/76)	To obtain experience.
<u>Kearney</u> 1115 SC Series (15 and 25 kV)	1091 5/27/76	To obtain experience.
<u>Bishop</u> Stress-Wrap (15, 25 & 35 kV).	1109 3/3/77	To obtain experience.

Conditional List

U gn(1)  
April 1978

U gn - Enclosures, equipment

Applicable Specifications: "REA Specifications for Equipment Enclosures,"  
U-4

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Continental Columbus</u>		
E/L100	969	To obtain experience.
(For use with dead-front	6/17/71	
pole-type transformers - see	1080	
Item an)	12/23/75	
<u>Durham</u>		
Series 4242 (dead-front)	966	To obtain experience.
Series 5454 (dead-front)	5/6/71	
Series 3452 (dead-front)	1078(11/26/75)	
<u>Electrical Equipment</u>		
TH1-DF Series (dead-front)	975(9/16/71)	To obtain experience.
<u>Inter-Alloys</u>		
3636-DF-SP	1052	To obtain experience.
4242-DF-SP	10/31/74	
5454-DF-SP	1133	
6666-DF-SP	2/16/78	
7272-DF-SP		
<u>Malton Electric</u>		
1-Phase Single Unit	978	To obtain experience.
(dead-front)	10/28/71	
<u>McGraw-Edison</u>		
EH12E DF-REA	994	To obtain experience.
EH13E DF-REA	6/29/72	
EH16E DF-REA	1119	
EH17E DF-REA	7/28/77	
EH18E DF-REA		
EH22E DF-REA		
<u>United (Ky. AEC)</u>		
Model 5-50 DF (dead-front)	961(2/18/71)	To obtain experience.
<u>Western Power Products</u>		
FG-DF1 (dead-front)	966	To obtain experience.
FG-DF3 (dead-front)	5/6/71	

NOTE: The above enclosures are available with various multipoint terminations. The owner should specify termination points to be provided.

Conditional List  
U gn(2)  
July 1977

U gn - Enclosures, equipment

Sectionalizing Enclosures

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Carolina Dielectrics</u> Model 0501	994 6/29/72	To obtain experience.
<u>Continental Columbus</u> CW200 Series CW300 Series	969(6/17/71) & 987(3/16/72)	To obtain experience.
<u>Durham</u> Mini-Section Low Profile I, Low Profile III and Tri- Section Series	1077 11/13/75	To obtain experience.
<u>Electrical Equipment</u> LPT-228-P LPT-249-P 3Ø LPT-266-P 3Ø	1103 12/2/76	To obtain experience.
<u>Nordic</u> ND-3 ND-9 ND-7R, NS-7MB (Base) ND-8R, ND-8MB (Base, 3 phase)	990(4/27/72) 1041(5/16/74) 1090 5/13/76	To obtain experience.
<u>Western Power Products</u> Model 24-1 Model 34-2	966 5/6/71	To obtain experience.
<u>Willow</u> WT-130 WT-248 WT-364 *WT-130 PM *WT-248 PM **WT-248 XM **WT-364 XM	1038 4/4/74	To obtain experience.

\*For pole mounting.  
\*\*For crossarm mounting.

NOTE: The above enclosures are available with various multipoint terminations.  
The owner should specify termination points to be provided.

Conditional List  
U gn(3)  
April 1978

U gn - Enclosures, equipment

Sectionalizing Enclosures

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Malton Electric</u>		
MEJ Series	1045(7/11/74)	To obtain experience.
ME Series	1108(2/17/77)	
	1130(1/5/78)	
<u>Vertex Plastics</u>		
1826B, 1Ø	1045	To obtain experience.
1826C, 1Ø	7/11/74	
1881, 3Ø	1110(3/17/77)	
<u>Gerard</u>		
Mod-Brk		
6-115-000	1047	To obtain experience.
6-125-000	8/8/74	
6-315-010		
6-115 Series***		
6-125 Series***		
<u>Inter-Alloys</u>		
15 kV and 25 kV	1051(10/10/74)	To obtain experience.
Primary terminal pedestals	1133	
PP Series, 1Ø and 3Ø	2/16/78	
*PP-PM Series, 1Ø and 3Ø		
<u>Fargo</u>		
15 kV and 25 kV	1068(6/26/75)	To obtain experience.
UP-400	1074(9/25/75)	
<u>Galva-Closure Products</u>		
Series AG	1132	To obtain experience.
Series BB	2/2/78	
<u>Hoffman</u>		
U-J482716-1, 1Ø	1135	To obtain experience.
buried base	3/23/78	
U-J303216-1, 1Ø		
pad-mounted		
U-J306016-3, 3Ø		
pad-mounted		
U-JGS183216 ground		
sleeve for U-J303216-1		
U-JGS186016 ground		
sleeve for U-J306016-3		

\*For pole mounting

\*\*For crossarm mounting

\*\*\*Available with surge arresters



U gu  
April 1978

U gu - Pedestal, power  
Refer to Construction Drawing UK5

Applicable Specifications: "REA Specifications for Secondary  
Power Pedestals," U-6

<u>Manufacturer</u>	<u>Inside Dimensions Inches</u>	<u>Height Inches</u>	<u>Catalog No.</u>
Fargo (Utility Products)	8 x 8	38	UP-1520
	8 x 8	46	UP-1620
	10½ x 10½	26	UP-2320
	16½ x 10½	36	UP-2520
	10½ x 10½	42	UP-2350
Inter-Alloys	7.75 x 11	24	C-24128-PH
	7.75 x 15	24	C-24168-PH
	7.75 x 11.5	24	**PM-24128-PH
	7.75 x 15.5	24	**PM-24168-PH
Nordic	8 x 8	44	PR-50, PR-55
	9 x 14	30	PR-149 (stake)
			PR-150 (stakeless)
Vertex	8 x 14	30	SP 814
Western Power Products	8 x 8	30	*SP-8, DF-3 (dead-front)
	9 x 9	30	*SP-9-DF-3
	9 x 9	30	SPM-90, DF-3 (stakeless)
	9 x 14	30	*SP-14-DF-3
	9 x 14	30	SPM-140, DF-3 (stakeless)

\*Furnished with 48" stake

\*\*Pole mounted

Conditional List

U gu  
July 1977

U gu - Power pedestal  
(Refer to Drawing UK6)

Applicable Specifications: "REA Specifications for Secondary Power  
Pedestals," U-6

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>ITT Blackburn</u> Molded polyethylene with galvanized steel cover and ground lug. Catalog No. SDR-2PG	991 5/11/72	To obtain experience.
<u>Pen-Cell</u> Molded polyethylene with galvanized steel cover and grounding lug. Catalog No. PE-20U-REA	983 1/20/72	To obtain experience.
<u>Sonoco Products Co.</u> Duropipe (fiber) power pedestal with cast iron cover: 12", 15", 18" and 24"	836 3/10/66	To obtain experience.
<u>Burndy</u> Molded polyethylene with galvanized steel cover. Catalog No. URD20G23	997 7/27/72	To obtain experience.
<u>Reliable (Synthetic Products)</u> Molded polyethylene with galvanized steel or plastic cover. Catalog No. S-840	1026 9/27/73	To obtain experience.
<u>Fargo</u> Structural polypropylene with plastic cover. Catalog No. RCP-2-REA	1045 7/11/74	To obtain experience.
<u>Carson</u> Molded polyethylene with plastic cover Catalog Nos. 1324-13B and 1730-13B	1109 3/3/77	To obtain experience.
<u>Associated Plastics</u> Molded polyethylene with galvanized steel or plastic cover Catalog Nos. 1730-1, 3; 1324-1, 3	1113 4/28/77	To obtain experience.



## U hb - Cable Accessories

(When ordering specify conductor size, type, whether copper or aluminum and insulation diameter)

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>General Electric</u>		
15 kV, used with loadbreak connectors		To obtain experience.
Switch module 9U02AAA001	930(10/30/69)	
Switch module 9U02AAB001*	1133(2/16/78)	
Basic connector module 9U05 Series	930(10/30/69)	
25 kV, used with loadbreak connector		
Switch module 9U02BAA001	1016(5/10/73)	
Switch module 9U02BAB001*	1133(2/16/78)	
Insulating cap 9U01BEB001	1016(5/10/73)	
<u>Joy</u>		
15 kV, used with loadbreak connectors		To obtain experience.
Protective cap - X8946-231	1090(5/13/76)	
Fast close bushing plug	1000(9/14/72)	
25 kV, used with loadbreak connectors		
Protective cap - X8975-12	1090(5/13/76)	
<u>Kearney</u>		
25 kV, used with loadbreak connectors	966 5/6/71	To obtain experience.
No. 112500 Bushing plug*		
<u>RTE</u>		
15 kV, used with loadbreak connectors		To obtain experience.
No. 2603711A12 protective cap	1033(1/17/74)	
No. 2604797B01 bushing well insert*	1126 11/3/77	
No. 2625194A01 two-way bushing well insert*		
No. 2604231B01 bushing well plug		
25 kV, used with loadbreak connectors		
No. 2606591A02 protective cap	1033(1/17/74)	
35 kV, used with loadbreak connectors		
No. 2606630A01 protective cap	1048(8/22/74)	

\*NOTE: Asterisk indicates single or three phase. Other bushing plugs for use with loadbreak connectors are single phase only.

Conditional List  
U hb(2.1)  
July 1977

U hb - Cable Accessories

(When ordering specify conductor size, type, whether  
copper or aluminum and insulation diameter)

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Reliable</u> Concentric neutral bonding clamp (Nos. 2329 & 2330)	1037 3/21/74	1. To obtain experience.  2. Only for bonding of anodes or other metals to the neutrals of existing cable installations.  3. Not to be used to connect neutral to grounding electrodes.
<u>Harco</u> URD cable clamp	1114 5/12/77	(Same as above)

U hb - Cable Accessories

(When ordering specify conductor size, type, whether  
copper or aluminum and insulation diameter)

600 Ampere Continuous Current Rating

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Elastimold (ESNA)</u>		
15 kV, used with non-loadbreak connectors 600, 650 Series	1016 5/10/73	To obtain experience.
25 kV, used with non-loadbreak connectors K600, K650 Series		
35 kV, used with non-loadbreak connectors 750LR Series	1064 5/1/75	
<u>RTE</u>		
15 kV, VBT Tee connector No. 2604360B Series	1126 11/3/77	To obtain experience.
15 kV, Protective cap No. 2625041A01		
<u>ITT Blackburn</u>		
15 kV, used with non-loadbreak connectors Types 6B and 65B	1131 1/19/78	To obtain experience.
25 kV, used with non-loadbreak connectors Types 6C and 65C		

U hc  
July 1977

U hc - Cable Supports  
15 and 25 kV

<u>Manufacturer</u>	<u>Catalog Number</u>	<u>Grip Dia. Range (inches)</u>
Kellems	022-16-011	0.81 to 0.94
	022-16-012	0.87 to 1.00
	022-16-013	0.94 to 1.06
	022-16-014	1.00 to 1.18
	022-16-015	1.06 to 1.25
	022-01-018	1.25 to 1.50
Lewis	A-U-SW-18	0.75 to 1.25
Economy Cable Grip	SPJ087-U	0.87 to 1.00
	SPJ100-U	1.00 to 1.12
	SPJ113-U	1.12 to 1.25
	SPC125-S-U	1.25 to 1.50
Fargo	GJ-854	0.718 to 0.919
	GJ-855	0.920 to 1.12
	GJ-856	1.12 to 1.50
Aluma-Form	CS-800 Series	0.75 to 2.0
Woodhead	36170 (SC14)	0.81 to 0.95
	36171 (SC15)	0.89 to 1.01
	36172 (SC16)	0.94 to 1.07
	36173 (SC17)	1.00 to 1.19
	36174 (SC18)	1.06 to 1.26
	35034 (SC125U)	1.25 to 1.50

U hd  
July 1977

U hd - Brackets, pothead mounting, and  
Brackets, combination pothead and  
arrester mounting

Manufacturer

Single Phase

Three Phase

Aluma-Form

TB-EMB-1-2PA

TB-EMB-1-6 PA



Conditional List  
U he(1)  
April 1978

U he - Enclosures, Sectionalizing Equipment

<u>Manufacturer</u>	<u>Meeting No. and Date</u> <u>7.2/12.5 kV</u>	<u>Conditions</u>
<u>Durham</u>		
Model FTSP-CL, single-phase pad-mounted, 1 thru 4 fused taps	1020 7/5/73	To obtain experience.
Model FTSP-CL3, three-phase pad-mounted, 1 and 2 fused taps	1077 11/13/75	To obtain experience.
<u>Electrical Equipment</u>		
FTDF-P Series, single and three-phase, one and two fused taps, pad-mounted	1040 5/2/74	To obtain experience.
*GGCL-P Series, single and three-phase, pad-mounted	1047 8/8/74	To obtain experience.
<u>Elliott</u>		
Type EPMR, single and three-phase, pad-mounted	993 (6/8/72) 1007 (1/4/73) 1009 (2/1/73) 1010 (2/15/73)	To obtain experience.
<u>Gerard</u>		
Mod-Brk 6-115 and 6-315 Series single and three-phase, pad-mounted	1047 8/8/74	To obtain experience.
<u>Powercon</u>		
Type PMF, single-phase pad-mounted	981 12/16/71	To obtain experience.
Type PMF-8.3, three-phase pad-mounted	998 8/17/72	
<u>Inter-Alloys</u>		
Uni-Versal single- and three-phase pad-mount fusible switchgear and loadbreak switches Series UV-FL	1133 2/16/78	To obtain experience.

\*Furnished with current limiting fuses.

NOTE 1: Enclosures on this page must comply with the dead-front requirements of REA Spec. U-7.

NOTE 2: Single-pole switching or three-phase underground circuits may cause ferro-resonance. Refer to REA Bulletin 61-3.



U he - Enclosures, Sectionalizing Equipment

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
	<u>7.2/12.5 kV</u>	
<u>McGraw-Edison</u> EH3A Series, single- phase, pad-mounted	1065 5/15/75	To obtain experience.
<u>Malton</u> MEF21	1108 2/17/77	To obtain experience.
<u>S &amp; C</u> Mark III, Models PMS (with option G-5) and PMC (with option G-5) 200 ampere three-pole switching and 200 ampere single-pole switching	1112 4/14/77	To obtain experience.

NOTE 1: Enclosures on this page must comply with the deadfront requirements of REA Spec. U-7.

NOTE 2: Single-pole switching of three-phase underground circuits may cause ferro-resonance. Refer to REA Bulletin 61-3.

## Conditional List

U he(2)

April 1978

## U he - Enclosures, Sectionalizing Equipment

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
	<u>14.4/24.9 kV</u>	
<u>Elliott</u> Type EPMR, single- and three-phase, pad-mounted	1030 11/21/73	To obtain experience.
<u>Gerard</u> Mod-Brk 6-125 and 6-325 Series, single- and three-phase pad-mounted	1047 8/8/74	To obtain experience.
<u>Powercon</u> Type PMF, single-phase pad-mounted Type PMF, three-phase pad-mounted	998 8/17/72	To obtain experience.
<u>RTE</u> Type LBS, single- and three-phase, pad- mounted, 300 amp	1095 8/11/76	To obtain experience.
<u>S &amp; C</u> Mark III, Model PMC (with option G-5) 200 ampere single-pole switching	1112 4/14/77	To obtain experience.
<u>Inter-Alloys</u> Uni-Versal single- and three-phase pad-mount fusible switchgear and loadbreak switches Series UV-FL	1133 2/16/78	To obtain experience.

NOTE 1: Enclosures on this page must comply with the dead-front requirements of REA Spec. U-7.

NOTE 2: Single-pole switching of three-phase underground circuits may cause ferro-resonance. Refer to REA Bulletin 61-3.

U hp - Terminations, Elbow\*

(When ordering specify conductor size, type, whether  
copper or aluminum and insulation diameter)

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Kearney</u>		
15 kV		
1115-FC Series (Loadbreak with voltage test point)	1077 11/13/75	To obtain experience.
25 kV		
1125 Series - L1 (Loadbreak without voltage test point)	1001 9/28/72	
1125 Series - L2 (Loadbreak with voltage test point)	966 5/6/71	
<u>RTE</u>		
15 kV Loadbreak SBT IV	1122	To obtain experience.
2604000B Series with test point	9/8/77	
2603999B Series without test point		
25 kV Loadbreak SBT	1032	
2604381B Series with test point	12/20/73	
2604400B Series without test point		
35 kV Loadbreak SBT	1048	
2603922B Series with test point	8/22/74	
2604006B Series without test point		

\*NOTE: Non-loadbreak devices require that connections be made in non-energized conditions only.

For application of loadbreak elbows on three-phase systems,  
refer to REA Bulletin 61-15 dated June 1974.

Conditional List  
U hp(4)  
April 1978

U hp - Terminations, Elbow  
(Rated for switching on three-phase systems)

(When ordering specify conductor size, type, whether  
copper or aluminum and insulation diameter)

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Kearney</u>		
15 kV, Loadbreak with voltage test point	1005 12/7/72	To obtain experience.
1115-FC Series	1077 11/13/75	
<u>RTE</u>		
15 kV Loadbreak SBT IV	1032	To obtain experience.
2604600B Series with test point	12/20/73	
2604599B Series without test point	1122 9/8/77	
<u>Elastimold (ESNA)</u>		
15 kV, Loadbreak without voltage test point	1068 6/26/75	To obtain experience.
Style 165-LR		
15 kV, Loadbreak with voltage test point		
Style 166-LR		
25 kV, Loadbreak without voltage test point		
Style 271-LR		
25 kV, Loadbreak with voltage test point		
Style 272-LR		
<u>General Electric</u>		
15 kV, Loadbreak		
9U01A--4-- Series	1133	To obtain experience.
25 kV, Loadbreak	2/16/78	
9U01B--5-- Series		

U hq - Terminations, Multipoint

Use with Loadbreak Connectors  
(When ordering specify conductor size, type, whether  
copper or aluminum and insulation diameter)

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Elastimold (ESNA)</u>		
Cable tap	921	To obtain experience.
1601-CT	6/26/69	
Single Cable Tap		
1601-SCT		
15 kV		
2-way bushing, 163J2*	1068 (6/26/75)	
3-way bushing, 163J3*	1068 (6/26/75)	
3-way bushing, 1601-J3	921 (6/26/69)	
4-way bushing, 163J4*	1068 (6/26/75)	
4-way bushing, 1601-J4	945 (6/11/70)	
<u>RTE</u>		
LBC-2, 2-way bushing, 15 kV	924	To obtain experience.
2600730C04 - single phase	8/7/66	
2604883B01 - three phase		
LBC-3, 3-way bushing, 15 kV	1126	
2600730C08 - single phase	11/3/77	
2604883B02 - three phase		
LBC-4, 4-way bushing, 15 kV		
2600730C12 - single phase		
2604883B03 - three phase		
<u>General Electric</u>		
15 kV		
2-way bushing 9U07ADB210	1131	To obtain experience.
3-way bushing 9U07AEB310	1/19/78	
4-way bushing 9U07AEB410		
25 kV		
2-way bushing 9U07BDB210	1016	To obtain experience.
3-way bushing 9U07BEB310	5/10/73	
4-way bushing 9U07BEB410		
<u>ITT Blackburn</u>		
J2BA (2, 3, 4-way) 15 kV	1110	To obtain experience.
JJ2BA* (2, 3, 4-way) 15 kV	3/17/77	

\*NOTE: Asterisk indicates single or three phase. Other terminations for use with loadbreak connectors are single phase only.







U hv - Cable, underground  
15 kV cable

Applicable Specification: REA Specification U-1  
Conductor : Copper or Aluminum  
                                  #2 AWG through 1000 kcmil  
Insulation : High Molecular Weight (HMW) or cross-  
                                  linked (XL) polyethylene  
Neutral : Coated copper concentric neutral

<u>Manufacturer</u>	<u>Insulation</u>	<u>Flat Strap Neutral Available</u>	<u>Stabilized Neutral Design*</u>
Alcan	HMW or XL	Yes	
Alcoa	HMW or XL	Yes	Ridg-lok
Anaconda	HMW	No	
Collyer	XL	No	
Cyprus (Rome)	HMW or XL	Yes	Serve-Lock
Essex (Paranite)	HMW or XL	Yes	
Hatfield	HMW or XL	No	
Hendrix	HMW or XL	No	Neu-Lok
Kaiser	HMW or XL	No	
Okonite	HMW or XL	No	
Phelps Dodge	HMW or XL	Yes	
Pirelli	HMW or XL	Yes	
Reynolds	HMW or XL	Yes	Secure-Neutral
Southwire	HMW or XL	No	
Triangle	HMW or XL	Yes	

\* Accepted design meeting the requirements of 7.5.2 REA Specification U-1,  
for a minimum neutral with a maximum lay.

U hv-2  
April 1978

U hv - Cable, underground  
25 kV cable

Applicable Specification: REA Specification U-1  
Conductor : Copper or Aluminum  
No. 2 AWG through 1000 kcmil  
Insulation : High Molecular Weight (HMW) or cross-  
linked (XL) polyethylene  
Neutral : Coated copper concentric neutral

<u>Manufacturer</u>	<u>Insulation</u>	<u>Flat Strap Neutral Available</u>	<u>Stabilized Neutral Design*</u>
Alcan	HMW or XL	Yes	
Alcoa	HMW or XL	Yes	Ridg-Lok
Anaconda	HMW	No	
Cyprus (Rome)	HMW or XL	Yes	Serve-Lock
Essex (Paranite)	HMW or XL	Yes	
Hatfield	XL	No	
Hendrix	HMW or XL	No	Neu-Lok
Kaiser	HMW or XL	No	
Okonite	HMW	No	
Phelps Dodge	HMW or XL	Yes	
Pirelli	HMW or XL	Yes	
Reynolds	HMW or XL	Yes	Secure-Neutral
Southwire	XL	No	
Triangle	XL	Yes	

\*Accepted design meeting the requirements of 7.5.2 REA Specification U-1,  
for a minimum neutral with a maximum lay.

U hv - Cable, underground

600 volt Cable

Applicable Specification: REA Specification U-2  
Conductor : Copper, #4 AWG and larger  
Aluminum, #2 AWG and larger  
Insulation : Cross-linked polyethylene (XLPE)

<u>Manufacturer</u>	<u>Type Conductor</u>
Alcan	Copper or Aluminum
Alcoa	Aluminum
American Electrical	Aluminum
Anaconda	Copper or Aluminum
Collyer	Copper or Aluminum
Cyprus (Rome)	Copper or Aluminum
Essex (Paranite)	Copper or Aluminum
General Electric	Copper or Aluminum
Hatfield	Copper or Aluminum
Kaiser	Aluminum
Okonite	Copper or Aluminum
Phelps Dodge	Copper or Aluminum
Pirelli	Copper or Aluminum
Reynolds	Copper or Aluminum
Southwire	Copper or Aluminum
Triangle	Copper or Aluminum

NOTE: The manufacturers shown above have indicated that their 600 volt cable is suitable for use on 480 volt corner grounded delta circuits.

The above cable may be supplied with UL label for Type USE.

U hv - Cable, underground  
600 volt multi-conductor cable

Applicable Specification: REA Specification U-2  
Conductor : Copper, #4 AWG and larger  
Aluminum, #2 AWG and larger  
Insulation : Cross-linked polyethylene (XLPE)

<u>Manufacturer</u>	<u>Type Insulation</u>	<u>Type Conductor</u>	<u>Cable Configuration</u>
Alcan	XLPE	Copper or Aluminum	3 insulated conductors triplexed
Alcoa	XLPE	Aluminum	3 insulated conductors triplexed
American Electrical	XLPE	Aluminum	3 insulated conductors triplexed
Anaconda	XLPE	Copper or Aluminum	3 insulated conductors triplexed
Cyprus (Rome)	XLPE	Copper or Aluminum	3 insulated conductors triplexed
Essex (Paranite)	XLPE	Copper or Aluminum	3 insulated conductors triplexed
General Electric	XLPE	Copper or Aluminum	3 insulated conductors triplexed
Hatfield	XLPE	Copper or Aluminum	3 insulated conductors triplexed
Kaiser	XLPE	Aluminum	3 insulated conductors triplexed
Okonite	XLPE	Copper or Aluminum	3 insulated conductors triplexed
Pirelli	XLPE	Copper or Aluminum	3 insulated conductors triplexed
Reynolds	XLPE	Copper or Aluminum	3 insulated conductors triplexed
Southwire	XLPE	Copper or Aluminum	3 insulated conductors triplexed
Triangle	XLPE	Copper or Aluminum	3 insulated conductors triplexed

NOTE: The above cable may be supplied with UL label for Type USE.

Conditional List

U hv(1)

April 1978

U hv - Cable, underground  
(15 or 25 kV cable)

TREE RESISTANT

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Reynolds</u> HMW Reynotree	1114 5/12/77 1134 3/2/78	To obtain experience.



U hw  
July 1977

U hw - Warning sign

Applicable Specifications: REA Drawings UML2-1 and UML2-2

<u>Manufacturer</u>	<u>Size (inches)</u>	<u>Danger Sign Catalog No.</u>	<u>Caution Sign Catalog No.</u>
Brady*	7 x 10	46133	46043
	10 x 14	46131	46041
Dun-Lap*	7 x 10	DL-D710	DL-C710
	10 x 14	DL-D1014	DL-C1014
	14 x 20	DL-D1420	DL-C1420
	20 x 28	DL-D2028	DL-C2028
Lyle*	7 x 10	UML2-1-710	UML2-2-710
	10 x 14	UML2-1-1014	UML2-2-1014
	14 x 20	UML2-1-1420	UML2-2-1420
	20 x 28	UML2-1-2028	UML2-2-2028

\*Reflective signs also available.



U hx  
July 1977

U hx - Cable route marker

Manufacturer

Catalog No.

Surface Mounted

Chance

C554-0001

Fargo

GM354

Above Grade

Chance

C554-0183

Dun-Lap

DL-R45  
DL-R712

Lyle

UM12-712

## Conditional List

U hy(1)  
April 1978

U hy - Splice, Underground, Permanent

(When ordering specify conductor size, type, whether  
copper or aluminum and insulation diameter)

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>AMP</u>		
"Ampact Splice" (35 kV)	1126(11/3/77)	To obtain experience.
<u>Burndy</u>		
Type PMS162-K (15 kV)	981(12/16/71)	To obtain experience.
<u>Elastimold (ESNA)</u>		
Style 1500S, straight splice, through #1/0 (15 kV)	1135 3/23/78	To obtain experience.
Style 25-S, straight splice, #2/0 through #4/0 (15 kV)	1135(3/23/78) 873 7/27/67	
Style 25-Y, Y-splice (15 kV)	921 6/26/69	
Style K-25-S, straight splice (25 kV)		
Style K-25-Y, Y-splice (25 kV)		
Style M-250-S, straight splice (35 kV)	1134 3/2/78	
<u>General Electric</u>		
"Uni-Matic" (15 & 25 kV) (max. cable size 2/0)	977 10/14/71	To obtain experience.
<u>ITT Blackburn</u>		
Type S (15 kV)	1032	To obtain experience.
Type SC (25 kV)	12/20/73	
<u>Joy</u>		
"Easy Splice" (15 kV)	979(11/11/71)	To obtain experience.
<u>3M</u>		
"Quick-Splice"		
5400 Series (15 kV)	969(6/17/71)	To obtain experience.
(#2 AWG thru 750 kcmil)	1024(8/30/73)	
5420 Series (25 kV)	1032(12/20/73)	

## U hy - Splice, Underground, Permanent

(When ordering specify conductor size, type, whether  
copper or aluminum and insulation diameter)

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>RTE</u>		
15 kV - 2606780A Series straight splice	1122 9/8/77	To obtain experience.
25 kV - 2606825A Series straight splice		
35 kV - 2603934B Series straight splice	1058 2/6/75	
15 kV - 2602429B Series Y-splice	1033 1/17/77	
<u>Somerset</u>		
Straight splices		
Style 15 DHS (15 kV)	1014	To obtain experience.
Style 25 DHS (25 kV)	4/12/73	
Style 35 DHS (35 kV)		



## U hy - Splice, Underground, Separable

(When ordering specify conductor size, type, whether  
copper or aluminum and insulation diameter)

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Elastimold (ESNA)</u>		
Style 151-SR, receptacle (15 kV)	921 6/26/69	To obtain experience.
Style 151-SP, plug (15 kV)		
Style K-151-SR, receptable (25 kV)		
Style K-151-SP, plug (25 kV)		

Conditional List  
U hy(3)  
April 1978

U hy - Splice, Underground, Permanent

(When ordering specify conductor size, type, whether  
copper or aluminum and insulation diameter)

600 Ampere Continuous Current Rating

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Elastimold (ESNA)</u>		
Style 650-S, straight splice (15 kV)	1016 5/10/73	To obtain experience.
Style 650-Y, Y-splice (15 kV)		
Style K650-S, straight splice (25 kV)		
Style K650-Y, Y-splice (25 kV)		
Style M650S, straight splice (35 kV)	1064 5/1/75	To obtain experience.
<u>RTE</u>		
15 kV - 2604904B Series straight splice (MPS-600)	1122 9/8/77	To obtain experience.
25 kV - 2604905B Series straight splice (MPS-600)		
<u>Joslyn</u>		
E7662 One-Man Splice (15 and 25 kV)	1111 3/31/77	To obtain experience.
<u>ITT Blackburn</u>		
15 kV - S65B straight splice	1131	
25 kV - S65C straight splice	1/19/78	To obtain experience.



Conditional List

U jf  
July 1977

U jf - Fused cutout terminator

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
Chance Isolating terminator 15 kV - FA00-1320	1052 10/31/74	To obtain experience.

Conditional List

U sc  
April 1978

U sc - Regulators, voltage, pad-mounted  
for underground distribution

7.2/12.5 kV

<u>Manufacturer</u>	<u>Meeting No. and Date</u>	<u>Conditions</u>
<u>Siemens-Allis</u> Single-phase, step-type pad-mounted regulator Type PFR (76.2, 114.3 & 167 kVA)	994 6/29/72	To obtain experience.